HIGHWAY TRANSPORTATION SHOW ISSUE

TRANSPORTATION LIBRARY

COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

COMMEMORATING THE GOLDEN JUBILEE OF THE AMERICAN MOTOR TRUCK

NOVEMBER 1948

What truck features do you want? See Pgs. 30-31

Ever been at odds with yourself on how to get *all* the high-performance features you want in one truck?

If so, take a look at the Reo line of trucks. No matter what your operating conditions—city, country, mountain, plains—you'll find Reo More-Load design trucks are built to get the work done fast, at a profit.

Wherever your trucks operate there's a Reo that's right for your job. Reo Motors, Inc., Lansing 20, Michigan.

REO

FLASH: *Reo again the "Choice of Champions" at A.T.A. National Truck Roadeo*

"Job-Rated" TO FIT THE JOB

Trucks that *fit your job* . . . save you money. They save in many ways.

They save on gas, oil, and tires. They save on upkeep and repairs. They stay on the job. They last longer.

For such a truck, see your Dodge dealer. Tell him what you haul . . . the weight of your load . . . and your operating conditions.

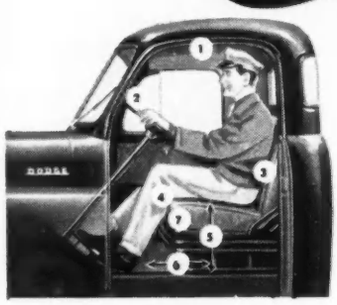
He will then recommend a Dodge "*Job-Rated*" truck that has been engineered and built to fit *your* job.

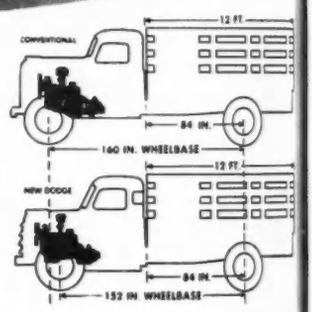
Your new truck will have "*Job-Rated*" power, for performance with economy.

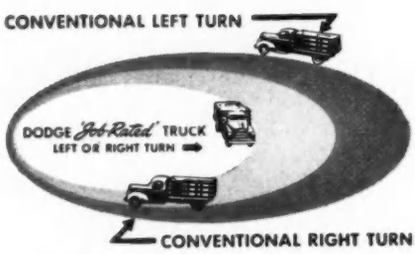
Every other unit . . . clutch, transmission, brakes, rear axle, springs and tires will be "*Job-Rated*" for long life and dependable operation.

For the location of the Dodge dealer in your community, consult the yellow pages of your telephone book.

PLUS... these important NEW features







SHORTER TURNING DIAMETERS

New Dodge "*Job-Rated*" trucks provide an entirely new ease of steering and handling. You can turn in much smaller circles, right and left, because of a new type of "cross-steering," plus shorter wheelbases and wider tread front axles.

MORE COMFORT AND SAFETY

1. Plenty of headroom. **2.** Steering wheel, right where you want it! **3.** Natural back support, adjustable for maximum comfort. **4.** Proper leg support. **5.** Chair-height seats. **6.** 7-inch seat adjustment, with convenient hand control. **7.** "Air-O-Ride" cushions, adjustable to weight of driver and road conditions.

BETTER WEIGHT DISTRIBUTION

New Dodge "*Job-Rated*" trucks have *much* better weight distribution. You can haul *more payload*. This has been achieved by moving the front axle back, *under* the frame, and moving the engine forward. More of the load is carried on the front axle. Wheelbases are shorter . . . but cab-to-rear-axle dimensions are unchanged.

DODGE "Job-Rated" TRUCKS

FIT THE JOB . . . LAST LONGER !

Visit the Big Dodge "Job-Rated" Truck and Equipment Show, Madison Square Garden, New York City, November 18-21, 1948

COMMERCIAL CAR JOURNAL

with which is combined Operation & Maintenance

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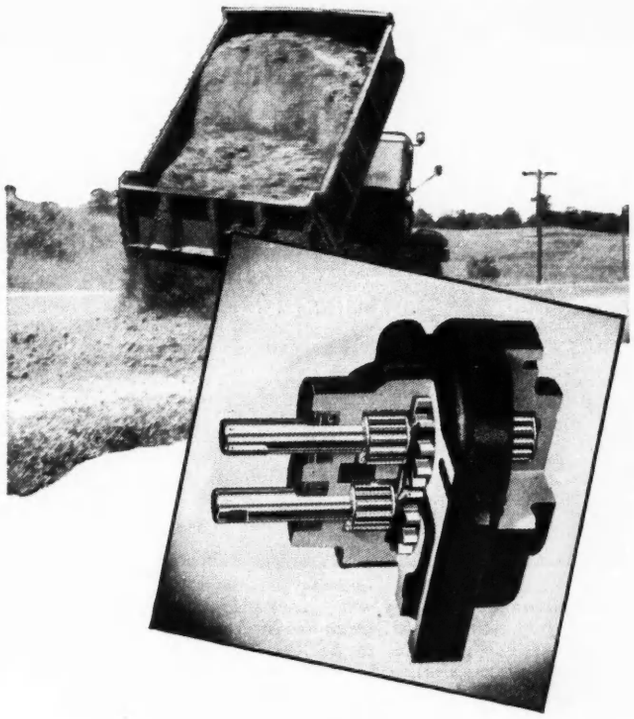

This NEW PUMP means even *longer service* from St.Paul HYDRAULIC Truck Dump Units . . .

and *improved performance* too. St.Paul's new pump for standard and medium duty hoists turns on anti-friction, roller bearings. It's a pump that may be used in *continuous* operation.

CONVENIENCE: Two drive shafts permit immediate hook-up with either clockwise or counter clockwise drive rotation.

PRECISION: Gears, shafts and housing are machined to half a thousandth of an inch (.0005") in size.

PLUS VALUE: Other truck equipment (snow plows, under-body blades, etc.) requiring continuous running may be operated by this pump through the hoist hydraulic system.

For value, performance and long life specify St.Paul Dump Bodies, Hoists and Truck Patrols.

ST.PAUL DIVISION
GAR WOOD INDUSTRIES, INC.
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2207 University Avenue S.E., Minneapolis 14, Minn.

(Advertisement)

A gentleman of the highway gives a big "hello" to children leaving Reo Safety School Bus. Over-the-highway hauling by Reo Model 22 tractor, G.V.W. 22500 to 38000 lbs., assures this Michigan fleet operator of maximum maneuverability with a shorter wheelbase. Check all the advantages of Reo More-Load design before you buy.

Dig into your operating files and see if you have a record that can match or beat this cross-country hauler: nineteen round trips from Detroit to Los Angeles without spending a penny, other than for routine maintenance and gas and oil.

What do you want most

The area where your trucks operate should

Even expert trucking men disagree as to what are the most important features to look for in trucks for their fleets.

But mainly, the disagreement stems from geographical conditions where their trucks operate.

If their principal trucking business is over hilly or mountainous terrain, most truckers agree that the power plants, axles and transmissions are top considerations.

When the average fleet operator in a Midwestern metropolis buys a truck, he knows that the greater maneuverability of a short wheelbase helps him get a job done quickly. So, naturally you'll find him checking *specs* for that type of data.

Down in the Southwest, many fleet owners keep a sharp eye peeled for economy of operation and cab comfort. In the Northwest, truckers want durability, ruggedness, and all-year-round heating and ventilating features in their trucks first of all.

Everywhere you go, truck men have problems peculiar to their locale.

Low cost maintenance tops list

One outstanding feature that all owners have at the top of their lists, regardless of where they operate, is fast, easy engine maintenance and repair service.

The problem — the answer

The problem faced by cross-country, city and inter-city haulers is how to find the make of truck that will most closely fill *all* the requirements for every type of operation.

Impossible? No! There's a line of trucks built in Lansing, Michigan, that fills the bill for almost every type of medium- and heavy-duty hauling done in the world. It's the line of Reo More-Load design trucks.

The Reo people not only have 45 years of automotive experience behind them, but an alert group of engineers who are *truck specialists*. They have taken into consideration almost everyone's trucking problems when they designed the Reo line of trucks.

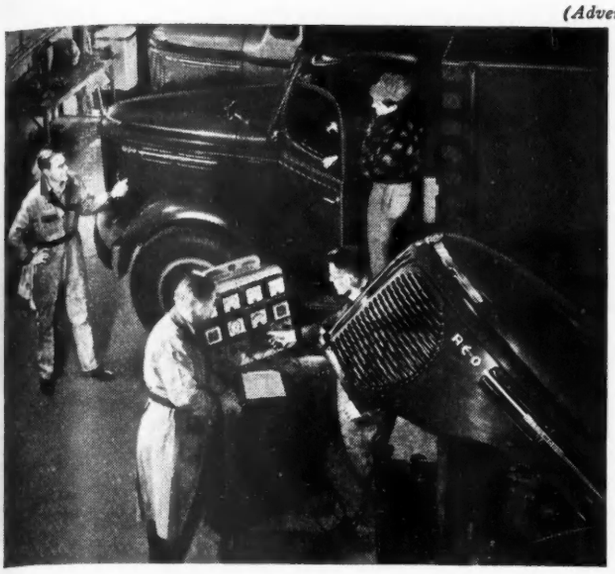
Name your poison

For rough terrain operators, Reo trucks have as *standard equipment* heavy-gauge steel frames, conservatively rated powerful engines, rugged Timken axles and a choice of transmissions.

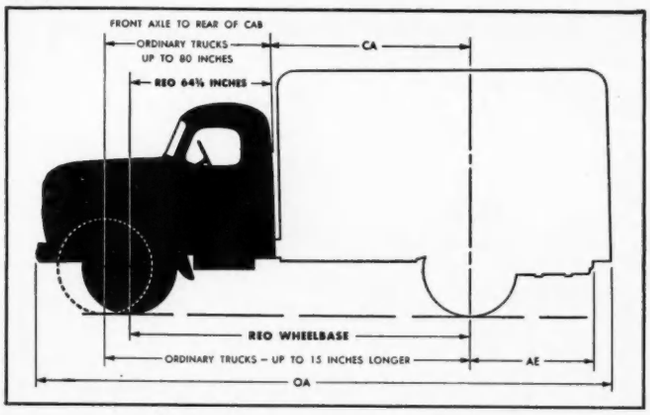
For fleet owners whose problem is many starts and stops in heavy, crowded traffic centers, Reo's More-Load design offers exceptional maneuverability. Model for model, Reo trucks have the shortest wheelbase of any conventional truck on the road. Reo More-Load design reduces the wheelbase as much as 15 inches, and still these highly maneuverable trucks carry a full payload in a more compact unit.

On straightaway roads, like those found in the plains states, Reo economy of operation stands out like a bright

(Advertisement)



Highway haulers the country over salute any truck that can be serviced quickly and easily. In truck-busy Chicago, a large garage reports their enthusiasm for Reo trucks. "We timed removal of major Reo engine units at 20% less than any other make we've had in the shop. Reo owners can save thousands of dollars yearly with the Reo cowl-hinged hood that assures fast, easy service."



Why does one make of truck turn in a shorter, tighter circle than other makes? Why can one truck carry a full payload in a more compact unit? Study the diagram above. See how Reo More-Load design trucks save inches in wheelbase length . . . thus are more maneuverable than any other truck, model for model, yet keep full payload space.

Special! Free cross-country booklet for your drivers' convenience. Book shows city-by-city locations of Reo Truck Dealers, Distributors and Branches all over the country. Send for copies for your drivers now. No obligation . . . just name your quantity. Write Reo Motors, Inc., Lansing 20, Michigan.

in the trucks you buy?

determine the truck features most valuable to you

star. A Detroit trucking company has a Reo that recently made 19 round trips between Detroit and Los Angeles without any mechanical attention necessary at all. Plugs, gas and oil were the only expenses.

To the man who pays the bills

We don't know a single person in the trucking business who doesn't want to reduce engine maintenance and repair costs. What's being done about it? Reo Motors has made a mighty big contribution.

The hood of Reo More-Load design trucks is hinged to lift from the front bumper line. Mechanics need not remove fenders, stand on ladders or run up big labor bills to reach and service the Reo engine. Lift the hood and there's the engine within easy reach for service as much as 20% faster and easier. Remember, lost time in the garage means lost dollars on the road.

All that glitters . . .

Hard working trucks shouldn't be judged on looks and price only. Smart operators don't necessarily buy on price alone . . . they look under the glitter before they buy a truck.

Reo truck buyers will find 7 main bearings to spread out the work instead of the usual 4 found in many truck engines. Reo buyers will find that Reo has gone to extra expense to Tocco (electric) harden the crankshaft . . . to stretch the life of the shaft thousands of miles. The chrome-molybdenum iron block in Reo truck engines is as tough and strong as can be made.

The big question: selecting the right model

When looking over the line of Reo trucks, let the Reo salesman, a factory-trained truck specialist, help you select the right model for the job you want done.

Reo offers a wide range of optional combinations, with a choice of engine sizes, axles, wheelbases, cab-to-axle dimensions and truck and tractor chassis. Immediate delivery can be made on most Reo models. See your Reo dealer soon.

REO MOTORS, INC., LANSING 20, MICHIGAN

★ ★ REO TRUCKS AND BUSES ★ ★

This story starts in the ground...

1. It begins here—

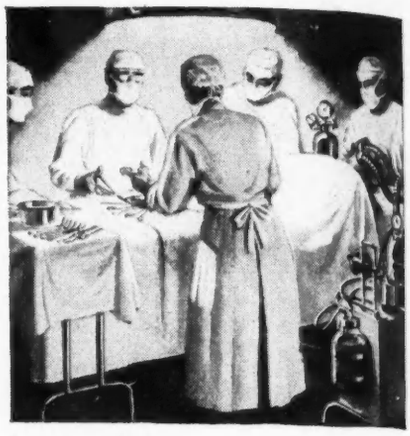
There's no place for weaklings in the enormous task of supplying the world with coal.

Trucks have to be tough to stand up under the grueling punishment of such work. That's why you find so many rugged International Trucks working right at the mines. From engines to axles they're engineered for the job.

2. It concerns a baby—

A cute little tyke squalling for warmth! His parents are concerned with that demand—and they're *customers!*

So when they want delivery of coal that spells comfort for him . . . they want it *pronto!* Keeping costs down on such jobs is one place International can help you. For 41 years we've been helping lots of people cut delivery costs.



3. A hospital—

Scene of emergencies—where coal-powered auxiliary electric systems may light critical heart beats.

Coal must arrive here on a dependable schedule. You can maintain that kind of schedule when you drive International Trucks kept at peak operating efficiency by International's specialized service set-up.

5. And trucks like this, which help keep the story moving—

More than 10,000 International Trucks—from small pickups to heavy off-highway units—work for the coal industry. They're engineered, built and serviced to meet every demand of this work.

There are 22 basic International Trucks. There are different engines (gasoline; diesel and butane), wheelbases, axles, transmissions, and other components for efficient specialization-of-truck-to-job. Gross weight ratings range from 4,400 to 90,000 pounds.

In short, there's an International Truck . . . a real "Standard of the highway" . . . to handle *your* hauling jobs the way you want 'em handled. For details, see your International Dealer or Branch.

4. And Mrs. Jones' new refrigerator—

She can't be expected to think of coal-power that helped give her her refrigerator.

But *you* know a lot of coal was hauled to make that refrigerator. You know much of it was hauled in International Trucks. And you know the fleet owners who hauled it wouldn't use trucks that didn't pay off for truck operators.

Other International Harvester Products
Farmall Tractors and Machines
Industrial Power . . . Refrigeration

Tune in James Melton and "Harvest of Stars," CBS, Wednesday evenings

INTERNATIONAL

INTERNATIONAL TRUCKS

MOTOR TRUCK DIVISION • INTERNATIONAL HARVESTER COMPANY • CHICAGO

NOVEMBER 1948

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1948 HIGHWAY TRANSPORTATION SHOW

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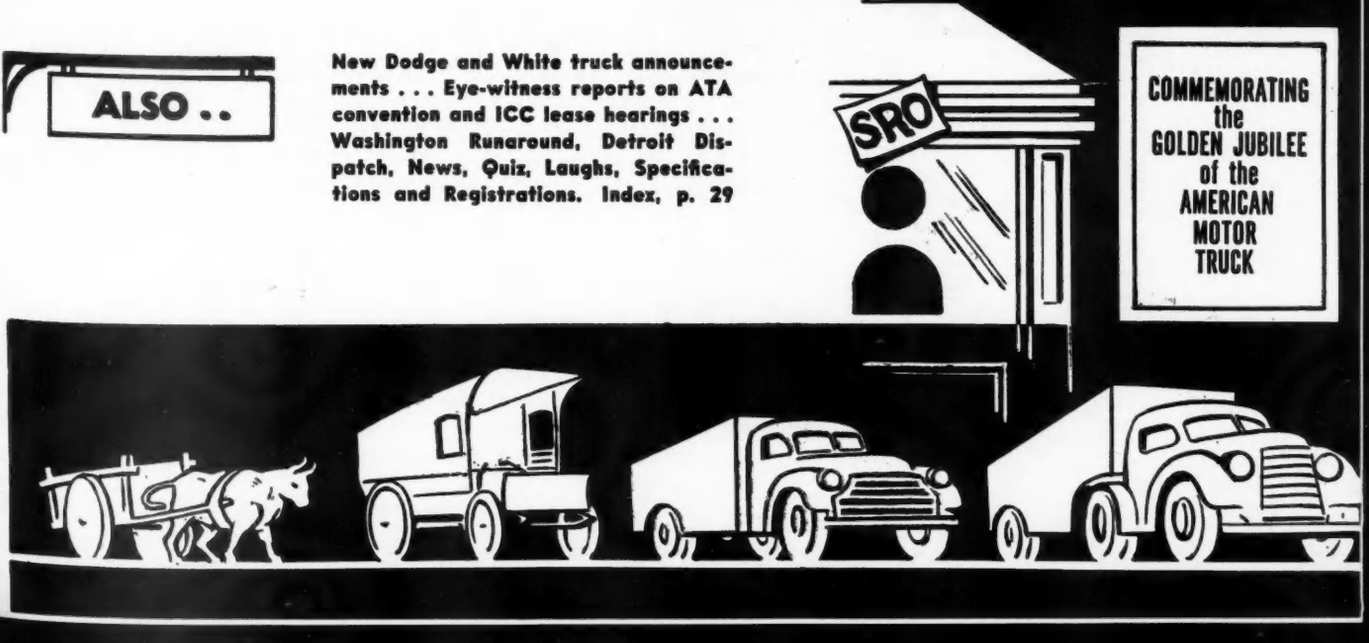

TRUCK SHOW

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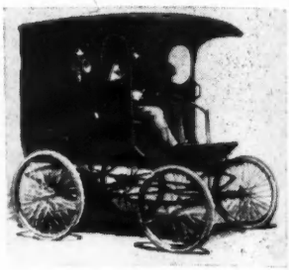
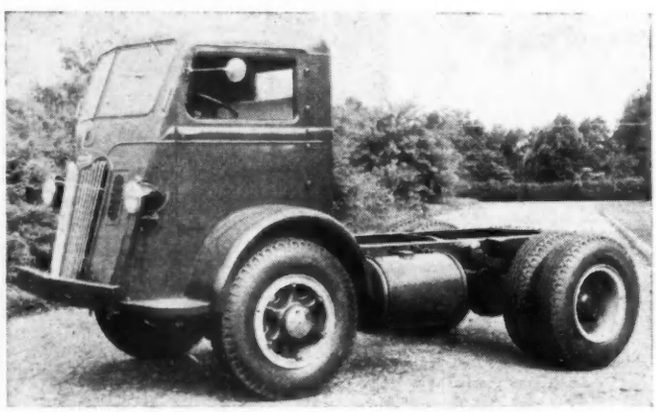
Presenting the outstanding



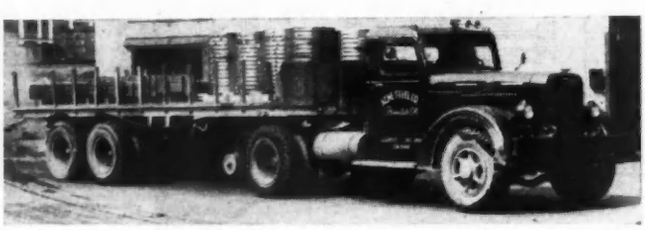
AUTOCAR

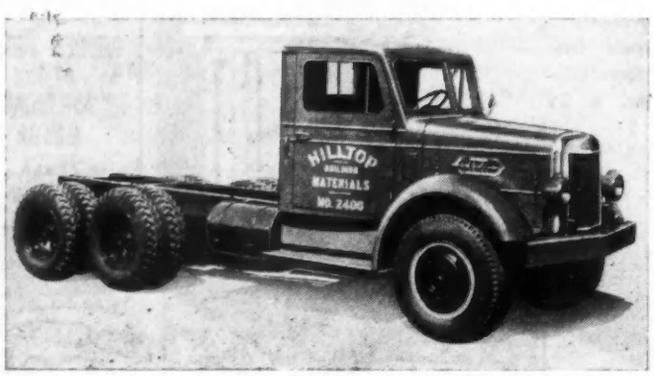
While most Autocar production has been devoted to "heavy-heavies," the newest "45" series are at the light end with minimum gvw of 24,000 lb. The U-45-T (see cut) has 106 in. wb. Also new are the giant "200" series powered by the 1090 cu in. Hall Scott engine and rated up to 80,000 lb gvw. In between there is a wide range of models with optional power to meet all requirements. First model: 1899, 5 to 8 hp, 900 to 1400 lb.

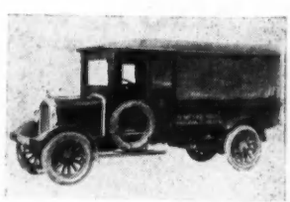


AVAILABLE

Available offers 10 basic four-wheel units and seven six-wheelers. Virtually all are available in coe design—an Available feature since 1910, and one which still accounts for more than 50 per cent of production. All models are powered by Waukesha or Cummins engines with power ratings up to 240 hp. First model: 1910, 1½-ton, 2 cyl, full-elliptic springs.

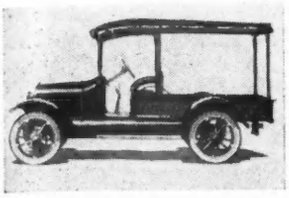






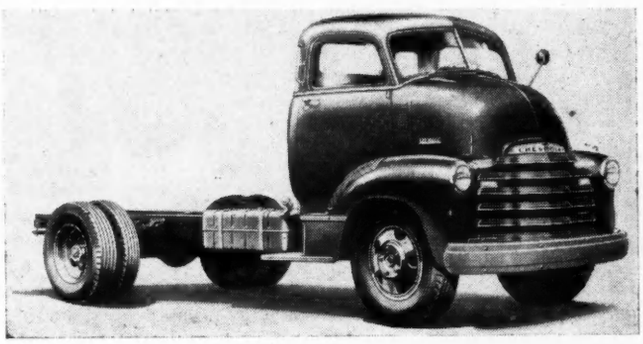
BIEDERMAN

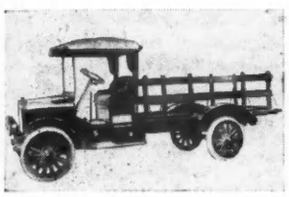
For 27 years Biederman has built heavy-duty trucks with two four and six-wheel drive. Present models range from 2½-ton up being powered largely by Hercules engines, from 339 to 525 cu in. First model: the 1921 "Biederman Six," said to be the first six cylinder truck in America; 5-ton payload, 35 mph, pneumatic tires on front wheels only.



CHEVROLET

As the worlds largest producer of trucks (4¼ million to the end of '47), Chevrolet offers 20 series totalling 109 models ranging from 4000 to 16,000 gvw. Illustrated is an Advanced Design coe model which accommodates 12 ft bodies and payloads up to 11,200 lb. First model: 1918, 4-cyl engine, 1-ton load.



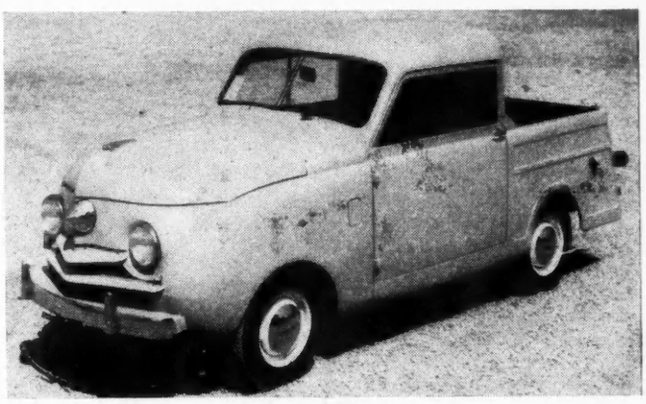


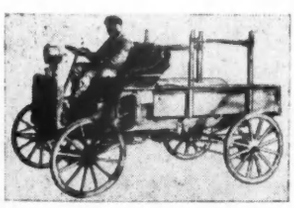
CORBITT

Corbitt builds a full line of heavy-duty trucks with gasoline and diesel power in models from 18,000 gvw up, some with four and six-wheel drives. Power train, made up of standard units, is carefully matched for maximum performance and the extra heavy all steel cabs constitute a safety feature. First model: 1913.

CROSLEY

The Crosley pick-up and panel delivery models, America's smallest truck models offer ¼-ton payload capacity at lowest cost. Like the station wagon and passenger car models, they feature the 44 cu in. Crosley Cobra engine with copper-brazed steel construction, valve-in-head design and 7½ to 1 compression ratio.

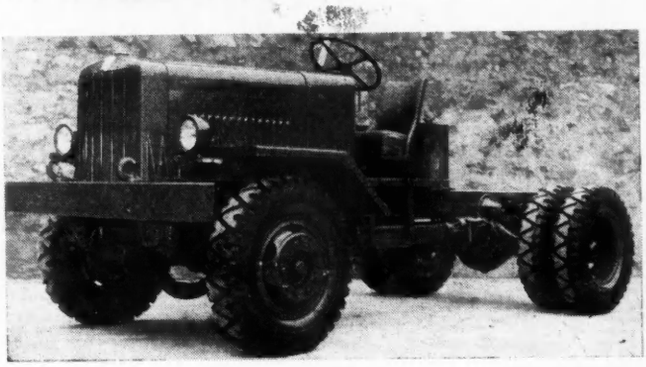




DART

Throughout most of its long history Dart has specialized in custom-built units to meet specific hauling needs. Although the company now offers a number of standardized highway units, most are still designed for special tasks. Typical is the underground mining truck illustrated, fitted with special oxygen apparatus (developed by Eagle Pritcher Mining & Smelting Co.) to reduce carbon monoxide within acceptable limits. First model: 1905.

(Turn to next page, please)



TRUCK Show

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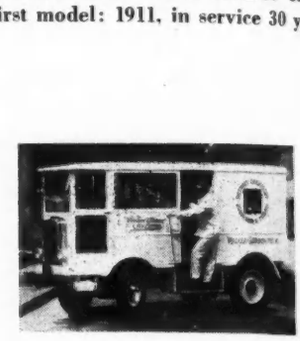
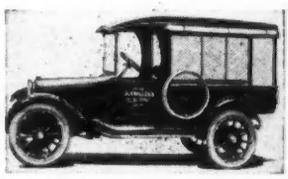
DIAMOND T

During the past year Diamond T has added two new models, the 704 and the 910N, in the heavy-duty field and enters 1949 with a total of 20 models covering the entire range from the 1-ton pick-up to six-wheelers of 60,000 lb gvw. Among notable recent improvements: higher output engines; "wide-vision" safety steel cabs with windshields 4½ in deeper (see cut, model 614) and new "quick-detachable" front fenders on all models 3 tons and over. First model: 1911, in service 30 years.



DIVCO

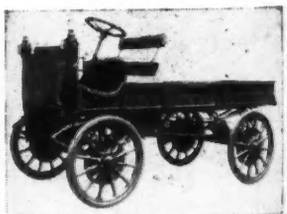
A pioneer in the development of specialized multi-stop vehicles, Divco, today, offers two basic models in five variations for delivery routes primarily in the milk and bakery fields. Model UM with economical 4-cyl engine and 100 ¾-in wb is available for either sit-down or stand-up driving; model ULM for longer routes has 6-cyl engine, 127½ in. wb. First model: 1927; featured control in front and on both sides.



DODGE

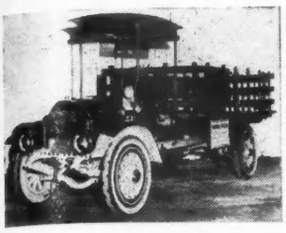
Living up to its reputation of "job-rated" trucks, Dodge now offers a total of 248 model variations in the gvw range from 4250 to 23,000 lb. There are seven different engines and wheelbases from 108 to 209 in. Newest improvements include better weight distribution, short turning radius and exceptional visibility. First model: 1917; the Dodge "Business Car."

(Description of new fluid-drive Route-Van . . . page 290)



DUPLEX

Duplex offers standard models with gvw ratings from 18,000 to 65,000 lb in four and six-wheel versions with Hercules, Cummins or Hall-Scott power options. Illustrated is Model L with dump body and Hercules 558 cu in. engine, rated at 37,000 lb gvw and especially adapted to road maintenance. First model: 1906; 2-cyl engine, planetary transmission.



FEDERAL

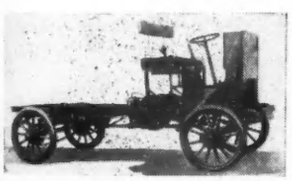
There are 39 Federal models (eight of them six-wheelers) in more than 400 combinations to cover the gvw range from 13,500 to 55,000 lb. The smallest, Model 16, is illustrated, has a nominal rating of 1½ to 2-tons. 12 engines are offered, Federal adaptions of Cummins, Hercules and Continental. Outstanding features include multiple fuze wiring on all models, radius rod drive on larger models. First model: 1910; 1½-ton capacity, 4-cyl Continental engine; still operative.

FORD

With its eight basic models, F-1 to F-8, and its three basic engines 90-hp six, 100-hp V-8 and 145-hp V-8, Ford covers the gvw range from 4700 to 21,500 lb. The complete new line, introduced earlier in the year, features modern styling, a number of mechanical improvements particularly from the standpoint of service accessibility and the two big jobs—biggest in Ford history. First model: 1917 Model T.

FWD

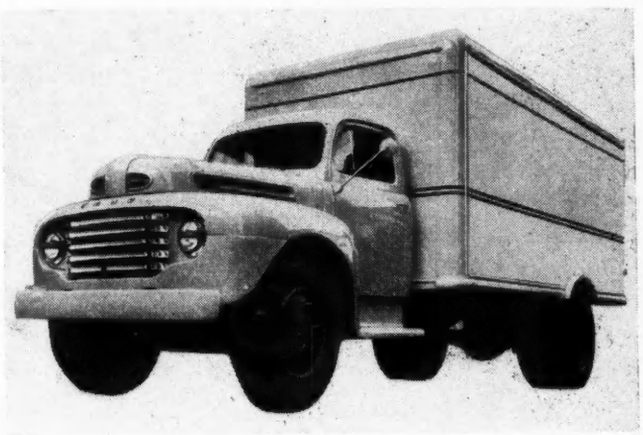
Building four and six-wheel drive trucks exclusively, FWD offers three basic series, each with wide variations of models, covering a range from 17,000 to 58,000 lb gvw. Newest addition is Model ZU, illustrated, rated at 33,000 lb gvw, featuring a new all-steel cab. First model: 1912; a 1½-ton four-wheel drive, only truck to pass grueling army test.

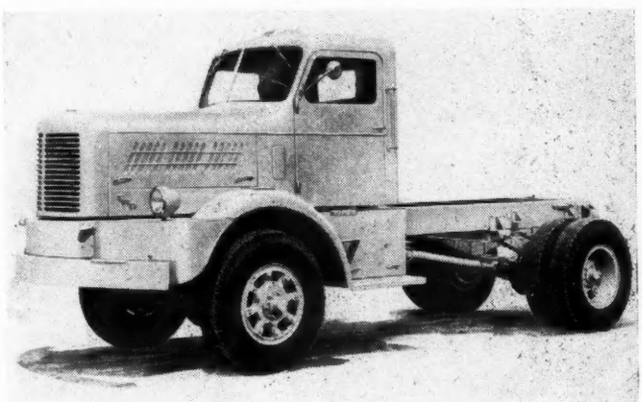


GMC

One of the newest in the wide range of GMC models is the cab-over-engine version of the 450 series (right) with gvw of 20,000 lb and choice of GMC 248 or 270 cu in. engine. In all, the GMC line runs all the way from 4600 to 55,000 lb gvw and includes five gasoline and three diesel engines with ratings up to 200 hp. First model: 1902 Rapid, a 1-cyl job by Rapid Motor Vehicle Co., predecessor of GMC which started making trucks in 1912.

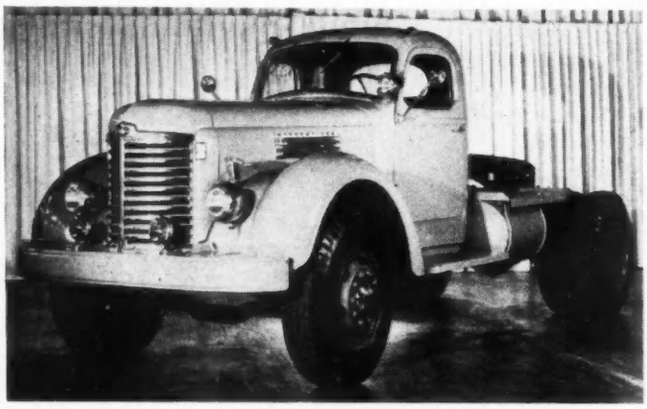
(Turn to next page, please)

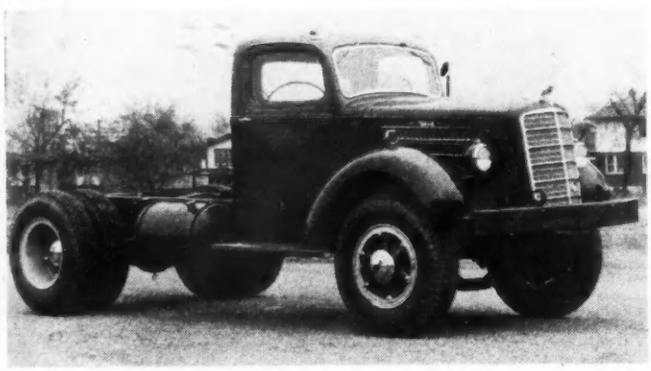


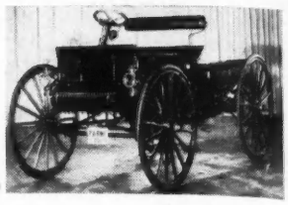


TRUCK Show

(Continued from Page 37)







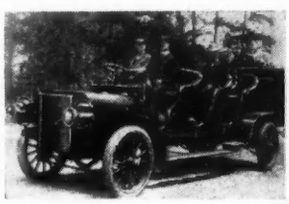
INTERNATIONAL

International Harvester now builds 21 basic models (15 in the KB line, 6 in the "Westerns") making possible a tremendous spread of adaptions and conversions all the way from 4400 to 90,000 lb gvw. To power them are 13 different engines from 213 to 1090 cu in. with diesel and butane options in the larger types, and throughout the line are a great number of clutch, transmission and rear axle options. Illustrated is the KBR-12, high-powered, over-the-road tractor. First model: 1907 "Auto wagon;" 2-cyl. 5 x 5 air-cooled engine rated at 20 hp.

KENWORTH

Kenworth continues to concentrate on really big models, starting at 28,000 lb gvw and ending with an off-highway giant rated at 110,000 lb gvw. Only two of the 14 basic models are 4 x 2's; the rest, 6 x 2, 6 x 4 or 6 x 6. Design features include extensive use of aluminum castings and sheet metal, special suspension for the six-wheelers, piano type door hinges. Model 825 is illustrated with NHB Cummins diesel. First model was 1915, but earliest available photo is of 1924 model.

LINN (see page 160)



MACK

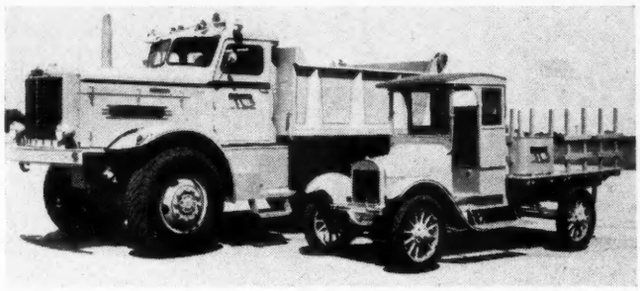
Ranging from 14,500 lb gvw to 175,000 gtw, the Mack line is available in conventional or coe designs with gasoline, diesel or butane power from 89 to 306 hp. One of the newest models, the EQT (see cut) incorporates two Mack features—the Thermodyne valve-in-head engine and the 10-speed Mono-Shift transmission. Six-wheelers feature Mack-designed bodies and power dividers. First model: 1900; used 8 years as bus, 9 as truck.

MARMON-HERRINGTON

Marmon-Herrington builds three complete lines of trucks: (1) the all-wheel-drive "heavies" of its own manufacture (the 42,000 lb version is illustrated); (2) the Ford all-wheel-drive conversions featuring the new F-7 models with 145 hp; and (3) the DeliVr-All front-wheel-drive package delivery unit (see cut above).

OSHKOSH

Oldest and newest Oskosh models are shown at right. Both are four-wheel drive models. The 1918 model had a 1-ton rating, featured an automatic positive locking center differential. The new Model W-2205 has a 15 ton rating (54,000 lb gvw), is typical of company's current models from 25,000 to 95,000 lb.

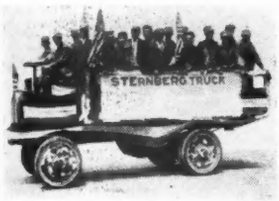


PETERBILT

Peterbilt is now producing six standard models in four and six-wheel models covering the gvw range between 35,000 and 56,000 lb. All are available with Cummins diesels, Waukesha gasoline engines, or the Hall-Scott 400 series in either gasoline or butane types. First model was produced in 1939.

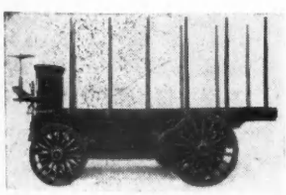
REO

Newest and biggest models in the recently expanded Reo line are the Model 31 tandems, illustrated, with gvw ratings up to 56,000 lb, and powered with Continental R-6602 engines. Reo's smallest is the D-19X rated at 8000 lb gvw and there is a full range of models in between. All feature Reo's "More-Load" stepped-back-front-axle design. First model: 1904; Model H, 1-cyl, 8 hp. ¾ ton load, 10 mph.



STERLING

Sterling offers a full range of models from 24,000 lb up in 4 x 2, 4 x 4, 6 x 4 and 6 x 6 types, most of them available with either chain or enclosed drive, gasoline or diesel power. Multi-wheel drive models feature positive drive transfer case and all have exclusive wood-lined, bolted frame. First model: 1907 Sternberg; a "coe" with 2-cyl, 20-hp engine.



STUDEBAKER

The Studebaker '49er truck line, introduced last spring, covers the range between 4600 and 16,000 lb gvw. Special emphasis is put on driver comfort, styling, full length frames, and cross steering linkage. At right, Model 2R16, 14,000 lb. gvw. First model: 1902 electric; capacity, 7000 lb; iron or solid rubber tires.

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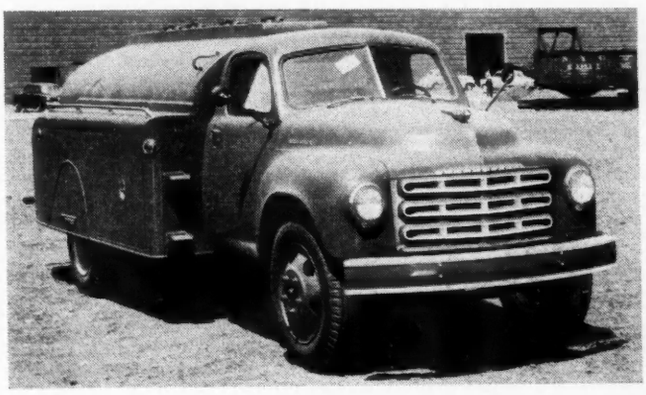
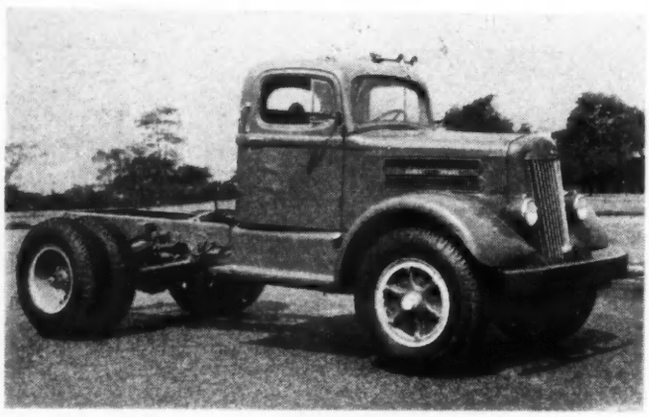
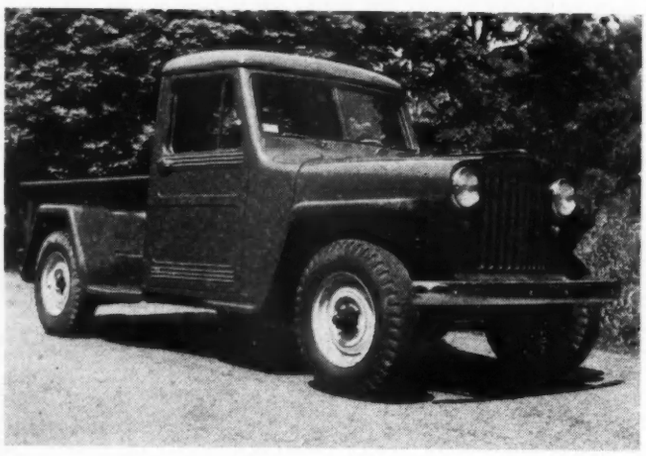
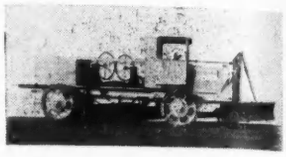


TRUCK Show

(Continued from Page 39)





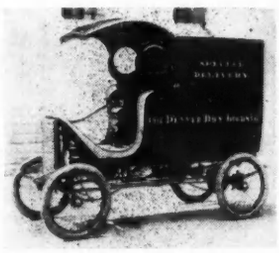


WALTER

Walter Four Point Positive Drive Tractor Trucks and Snow Fighters are available in the 24,000 to 66,000 lb gvw range with gasoline and diesel power from 125 to 300 hp. In addition to positive traction they feature suspended double reduction drive and six-speed transmissions. At left is newest Snow Fighter—Model AGRL, 42,000 lb; clearing width, 16 ft. First model: 1920; 60 hp 4-cyl engine, but all other basic Walter features.

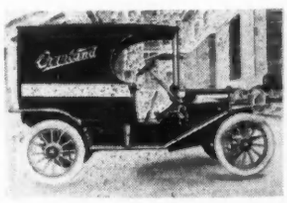
WARD LA FRANCE

Typical of current Ward La France models is the D7NST7 6 x 4 tractor, illustrated, especially designed for West Coast tractor operations. It is powered by optional Cummins diesels from 150 to 275 hp, has such W La F features as flat-top "platform" fenders and instrument servicing panel on engine side of fire wall. In all the line runs from 25,000 to 62,000 lb gvw. First model was built in 1924.



WHITE

White's brand new WC series is publicly announced for the first time on page 130 of this issue. Covering a full range of vehicles between 14,000 and 55,000 lb gvw, the new line features increased horsepower with tractor models being fitted with larger (though interchangeable) engines than in corresponding truck models. This gives tractor-trailer combinations virtually the same horsepower to rate ratios as the straight truck versions. First model: 1900 White Steamer for Denver Dry Goods Co.



WILLYS

The Willys Jeep utility truck line now includes 14 body and chassis variations, available in two and four-wheel drive, with gvw ratings from 4700 to 5300 lb. One of the most popular is the four-wheel drive utility, illustrated. All are built around Universal jeep which is continued in production. First model: 1908 Overland Delivery Car, 25 hp, 800 lb capacity.

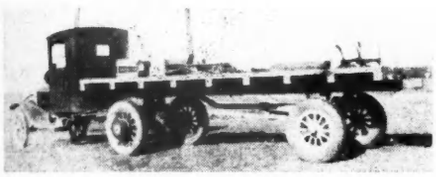
(Turn to page 160, please)

FRUEHAUF

More than 5000 models and variations are available in the Fruehauf Trailer line, ranging from light pick-up vans to carry-alls of 100 ton capacity. Most famous models are the stainless steel vans (illustrated below) featuring exceptional strength, lightweight and corrosion resistance; and the Aerovan, built in a number of different heights and lengths to meet general hauling needs. In addition there is a wide variety of models including open and close top vans; drop frame vans; livestock and grain haul units; platform, stake types, tank trailers, dump trailers, pole trailers and custom designs. First model: 1914, an adaptation of standard wagon fitted with improvised fifth wheel.

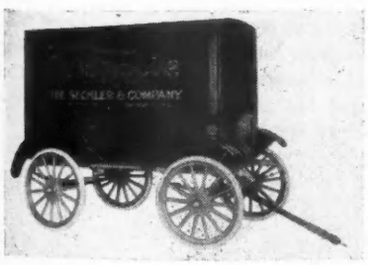
TRAILER SHOW

A review of current models with emphasis on latest types and brief historical notes



KINGHAM

Kingham Trailer Co. offers a wide range of models in single and tandem axle varieties, straight and drop frames to meet virtually every hauling need. Illustrated are a pair of 22-ft vans (the second with conversion dolly) with Plymetal outside covering which Kingham has featured for many years. First model: 1925, a pole trailer with flat bed attached, using Ford Model T truck springs.



TRAILMOBILE

Founded in 1841 as the D. W. Sechler Co., Trailmobile entered the trailer field as a natural off shoot of the wagons and buggies it first manufactured. Today the line includes virtually all types from the conventional vans to machinery hauling drags. All are available in single or tandem models. First model: a four wheel job, designed for general hauling.

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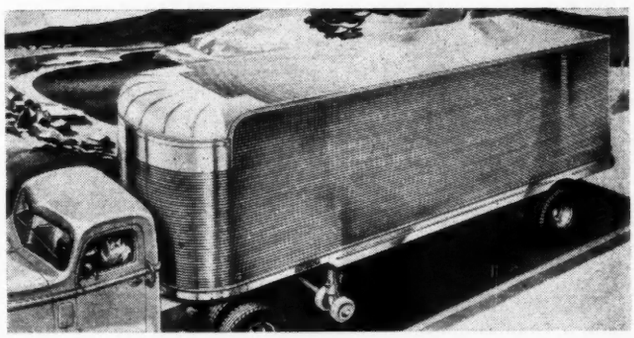
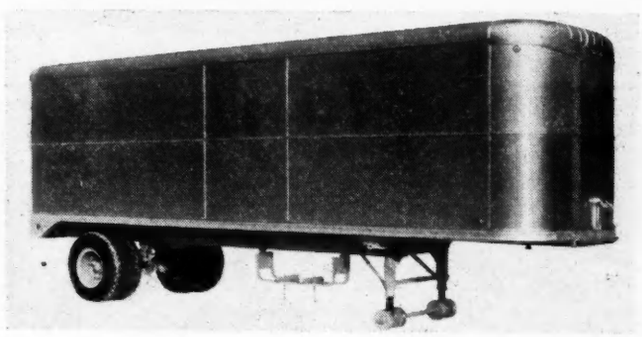
FRUEHAUF



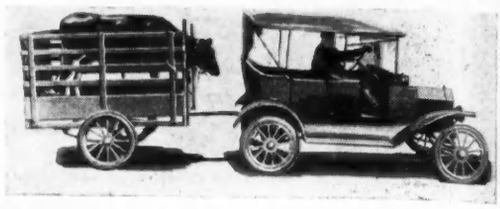
KINGHAM

TRAILMOBILE



TRAILER SHOW...

(Continued from Page 41)

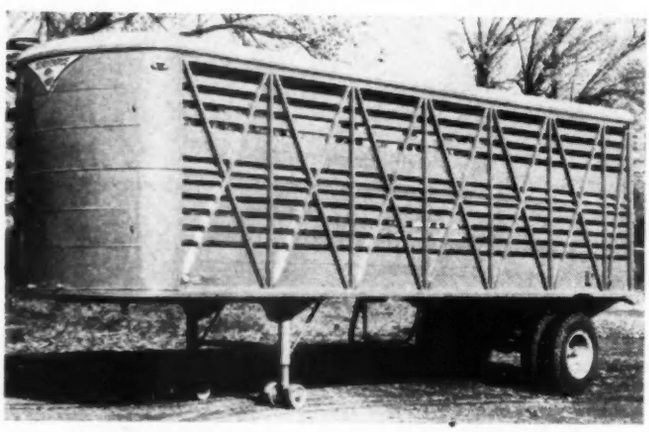


HIGHWAY

In its sizeable plants at Edgerton and Stoughton, Wis., Highway produces many of the castings and other components used in the construction of its trailers. Today's most popular models are the Highway Clipper and Freightmaster, but the line includes the drop-frame Warehouseman's Van, grain haulers, platform models and many other types. First model: 1917; rated at one cow capacity.

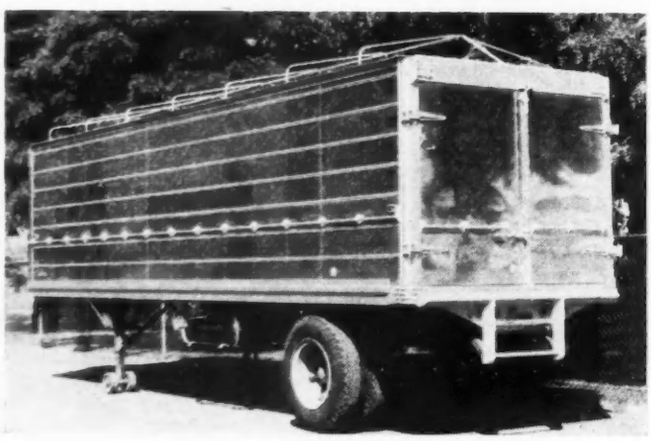
DORSEY

Dorsey Trailers are made in a full range of van, platform and pole types, with single or tandem axles. Special emphasis is put on factory-built refrigerated jobs. Unfortunately no photographs were available for this issue.



SUPERCARGO

A post war entry in the Commercial trailer field, American Bantam Car Co. has been in production since the fall of 1945. Today the Supercargo line includes a full range of highway van and platform types in both single and tandem axle models. The livestock van, illustrated, shows the special "bridge truss" construction of 2-in. welded steel tubes, used in all vans for extra strength. Other features include "quadri-point" spring suspension, steel torque arms, rubber trunion axle mountings and 72 in. upper fifth wheel plate.



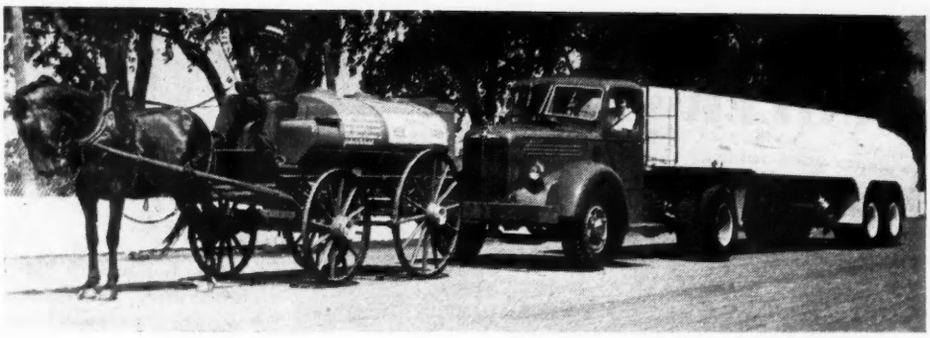
BROWN INDUSTRIES

Brown Industries, Inc., has pioneered frameless, monocoque construction of all-aluminum trailers since 1931. Sides, roof and floor sections are riveted to make each trailer in effect a giant tube. Running gear is mounted directly to body sills, eliminating the undercarriage, and features axle adjusting knees which make wheel alignment quick and simple. The open top model illustrated has recently been added to the line; is available in standard lengths to 45 ft.

STRICK

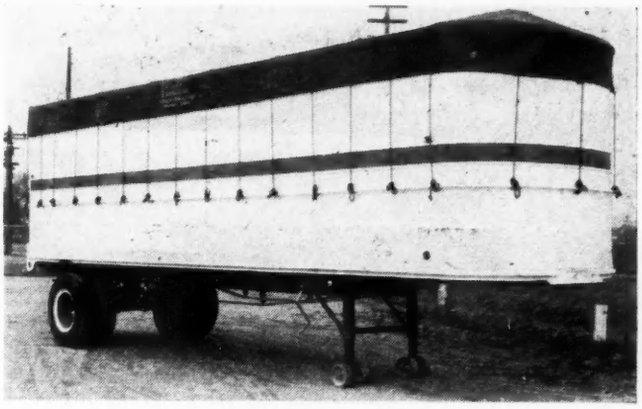
Strick has been building frameless aluminum trailers since 1938 and, according to company statements, every one is still in active service. Strick trailers are custom built to meet individual requirements but are designed around standard components parts to assure maximum serviceability. They are available in open or closed top models, in standard, insulated and refrigerated types.

HEIL



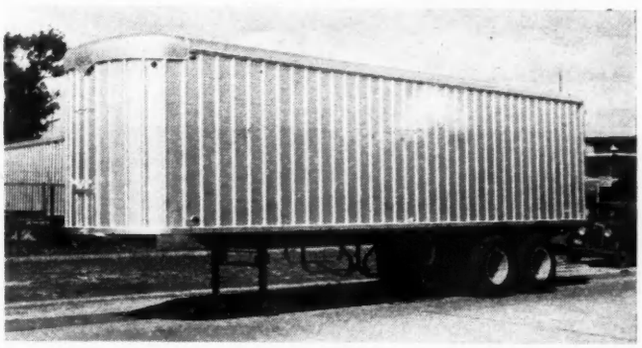
The Heil "hayburner" of 1907 held 200 gal, was of riveted construction. The modern 5600-gal "Trailerized" petroleum tank transport behind it is typical of a wide range of current Heil models. It features all-welded frameless design, smooth skin exterior (the welds are inside), with all equipment designed as an integral unit. Heil models are available with both single and tandem types featuring Timken tubular axles. The tandem unit has center bearing rocker arms which transmit all the load through the center bearings and a special torque tube between the axles for distribution of brake torque.

GRAMM



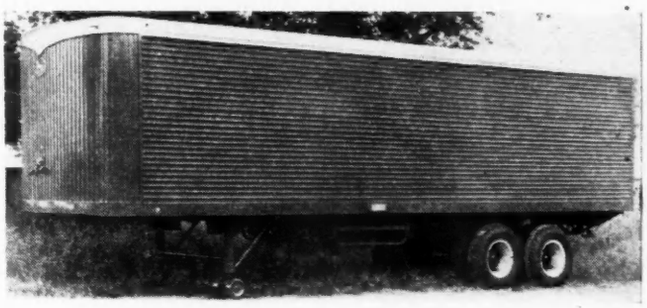
Gramm steel "Payliners" and the more recent aluminum "Alcorvans" blanket the van type trailer field with open and closed type models, smooth and corrugated sides (both steel and aluminum), and single or tandem axles. In addition there are all types of specialized lowbeds, dumps and others. Illustrated is an unusually trim open top model.

EDWARDS

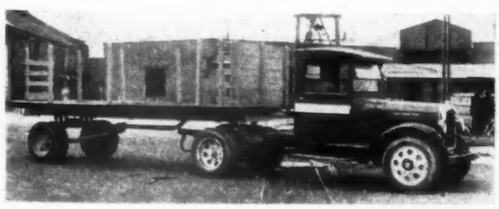


Newest Edwards (Iron Works) trailer model is the corrugated tandem illustrated. It features a new type free-end spring assembly with rubber bushings, adjustable radius rods and no shackles. The full line of van type trailers is available in a number of sizes with single or tandem axles.

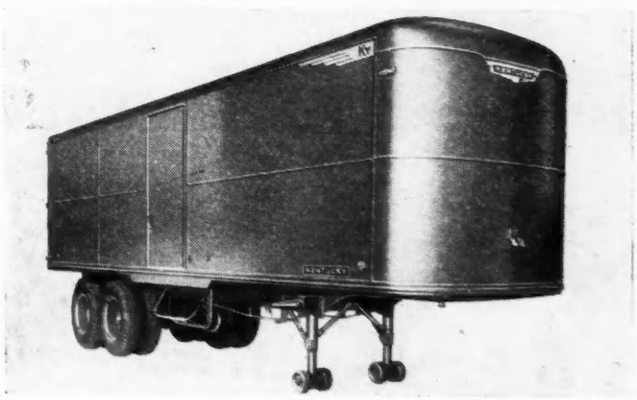
GREAT DANE



Great Dane trailers are available in a full range of van tank and platform and specialized types. Most of the van models feature the lengthwise corrugations with sides and roof continuous as will be noted in the accompanying illustration. First model: 1931.



KENTUCKY

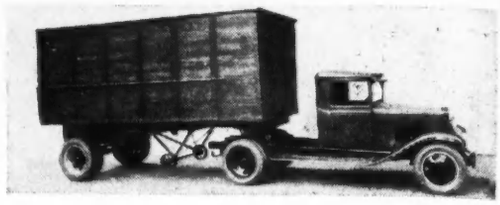


The Kentucky trailer line includes the brand new tandem model illustrated featuring square steel tubular posts and diagonal struts. An interesting variation is a combination freight and live stock van using closeable vents in the smooth panel sides. First model "semi" is shown above.

(Turn to next page, please)

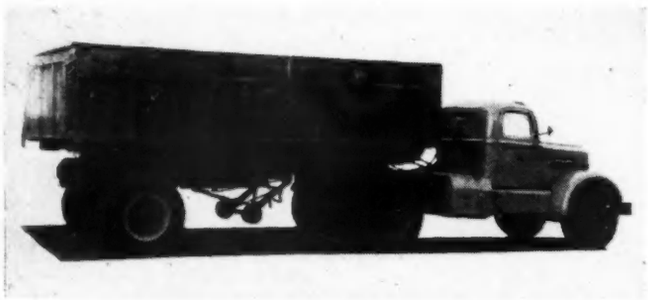
TRAILER SHOW...

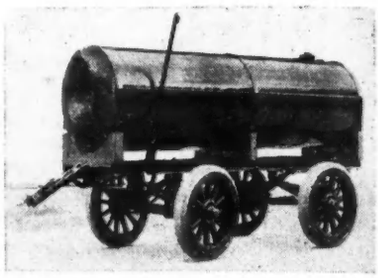
(Continued from Page 43)



TEC

Truck Engineering Corp. manufactures all types of semi and full trailers, pole trailers machinery trailers and dump trailers (an 18-cu yd model with 18 ft body is shown). All but the carryalls have pressed steel frame and Timken axles. First model: 1931; built with solid sides for tire hauls.





UTILITY

In addition to its standard van models in single and tandem models Utility makes an unusually wide range of special types including tanks (see cut), flatbeds (some with tilt feature), stakes, dumps and gondolas. New 10-in. brake (see page 60) available on all models. First model: 1917; a 1000-gal tanker.

MUSTANG

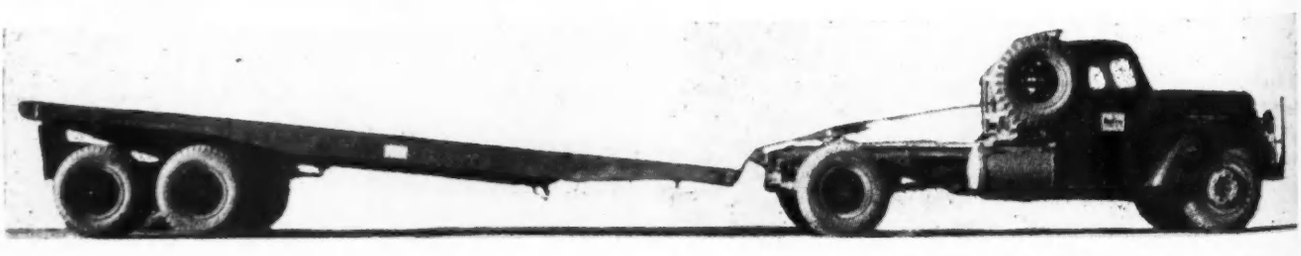
Texas Sheet Metal & Mfg. Co. builds the Mustang trailer line for use with small pick-up trucks. Newest addition is the 600 cu ft model shown and designed for use with ¾ or 1-ton chassis. Sides are 6 ft high and center roof height 6 ft 7 in. Weight with landing gear, 2800 lb.

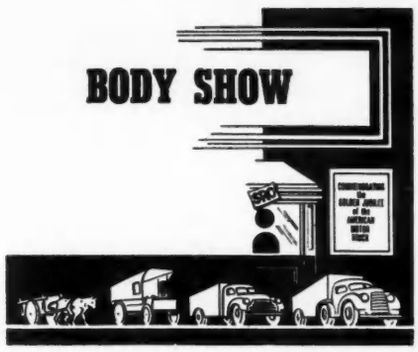
REYNOLDS

Reynolds Metal Co. now has available a full line of aluminum trailer body sections which are shipped knocked-down for assembly in the field. Standard trailer sizes 20 to 36 ft. All structural parts are extrusions, joined by solid rivets. Any type running and landing gears may be used and complete assembly and mounting time is 90 man hours. (Photo next to bottom, left.)

HOBBS

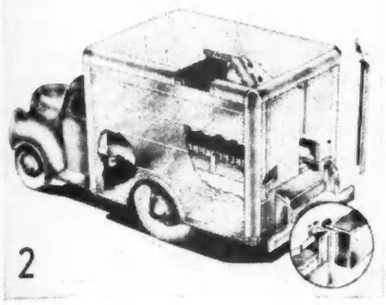
Hobbs Mfg. Co. has just announced two new self-loading floats (see cut below) with 75,000 and 100,000 lb capacities. Illustration shows how tractor winch may be used to lower bed. Then working from other end, it can pull load onto the float. Tandem unit is made by Hendrickson; axles by Timken.





BODY SHOW

A review of latest developments by leading builders of standardized bodies & equipment



1. American Coach & Body

Founded in 1912 by J. H. Holan, the American Coach & Body Co., Cleveland, has been specializing in utility bodies since 1918. The line now includes standardized models for virtually every utility need ranging from a 72-in. body for ½-ton pick-ups to giant models such as the new hydraulic tower lift shown.

2. Aluminum Body Corp.

The Aluminum Body Corp., Vernon, Cal., makers of all-aluminum truck and trailer bodies, now offers knocked-down body kits in any size to meet custom specifications. The cut away view, above, shows construction details of channel members, insulated sides and roof, while the inset shows door construction. A typical kit for 12-ft body is priced at $546 fob factory.

3. Brown Industries

Brown Industries, Inc., Spokane, a pioneer builder of all-aluminum trailers, recently introduced a line of 12, 14 and 16 ft. aluminum Cargo Van bodies. They are shipped knocked-down and feature a completely-bolted assembly. Tests have shown that the body may be assembled and mounted in the field in 55 minutes using only a screw driver and wrench.

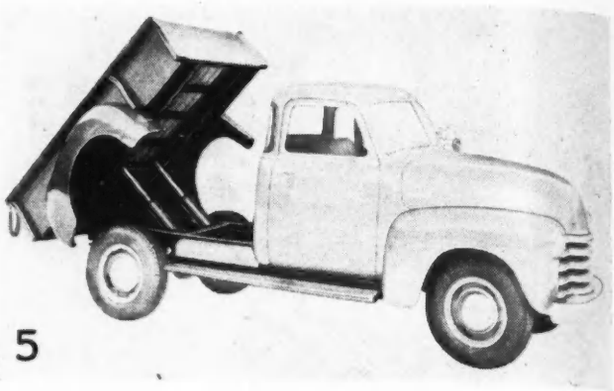
4. Galion Allsteel

For 26 years Galion Allsteel Body Co., Galion, O., has specialized in the building of hydraulic hoists and dump bodies. Bodies are now available in standard and special sizes all the way from 2 to 25 cu yd; hoists, in seven sizes from 7½ to 22 tons providing the right capacity for each body size. The line includes many custom designs for garbage, coal, etc.

(Turn to next page, please)

Body Show

Continued from Page 45


5

5. National . . .

National Truck Equipment Co., Waukesha, Wis., has recently added an hydraulically-operated twin hoist to its line of dump bodies for ½, ¾ and 1-ton trucks. Complete bodies are now available with either hand, single or twin hoists, and the hoists are available separately for conversion of standard pick-up bodies. Also available is a double-acting tailgate which opens from either top or bottom.

6

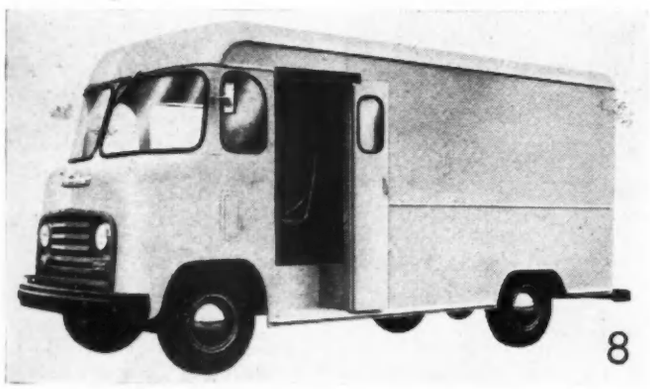
6. Vanette . . .

Newest addition to the body line produced by Vanette Div. of Brooks and Perkins, Detroit, is the "Breadliner" featuring full opening rear doors, smooth side interior and complete dust sealing (accomplished by spraying entire body shell with undercoating before lining is installed). Made for Ford chassis exclusively and sold through Ford dealers.

7

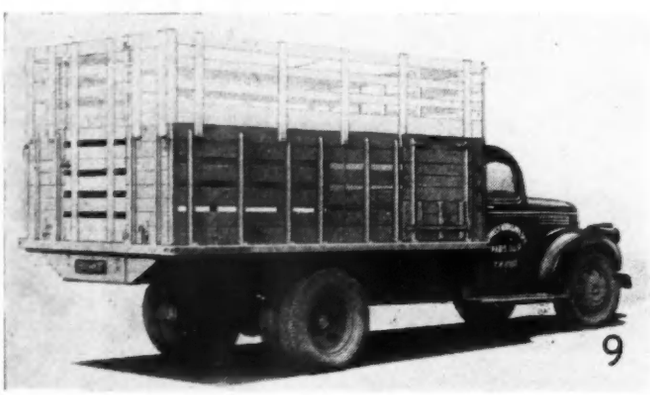
7. Schnabel . . .

Schnabel Co., Pittsburgh, makes the 880-gal ice cream body illustrated at left. Said to be the only all-steel ice cream body commercially available, it weighs but 4700 lb, complete with four hold-over plates, 1½-hp compressor, and 6 in. insulation in sides and floor, 8 in. in top. In addition to ice cream bodies in many sizes, company also makes a full line of bodies for milk and package delivery as well as bottlers and dump bodies. Founded 90 years ago.


8

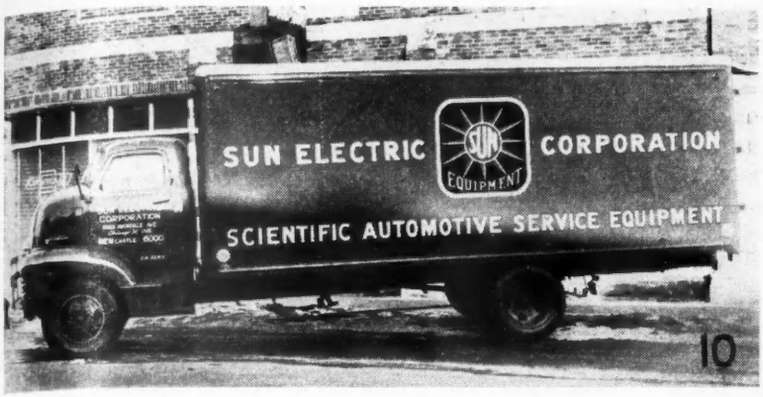
8. De Kalb . . .

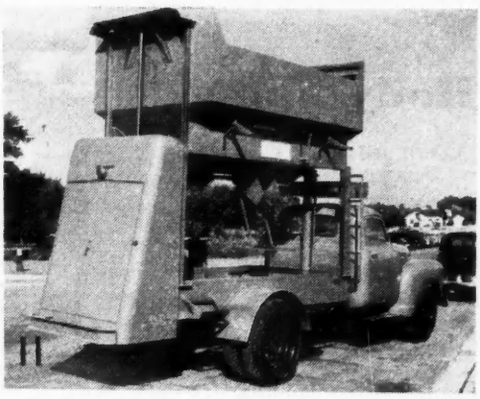
Brand new member of the De Kalb Commercial Body Corp. (De Kalb, Ill.) line is the 400 cu ft "Urbanette," illustrated. It is designed for the new Chevrolet forward-control chassis, has curved glass windshield. Also new is the "Panelette Jr" for the Chevrolet ½-ton chassis, providing easy access and big load space. Like all De Kalb models they feature all-welded high-tensile tubular steel frames. Company also has a unique all-steel stake body with similar construction.


9

9. Mid West . . .

Mid West Body & Mfg. Div., Paris, Ill. builds a complete line of heavy-duty stake and platform bodies and will soon introduce a companion line of lower-priced "Leader" models. The fold-down high rack model illustrated provides unusual flexibility not only from the fold-down feature but also in the tail gate which may be raised, lowered, swung outward or removed entirely.





10. Reynolds . . .

Reynolds Metals Co., Louisville, offers a complete line of all-aluminum truck bodies. The standard sizes range from 8 through 20 ft. One of the larger models is illustrated above. All are shipped knock-down in standard section assemblies and require about 16 man hours for erection.

11. Heil . . .

Since 1901 The Heil Co., Milwaukee, has pioneered in the development of tanks, dump bodies and hoists and a number of highly specialized units for garbage collection, airplane loading, etc. One of the newest and most interesting is the Hopper Hi-Lift coal body illustrated, for loads from 4 to 6 tons. Note the stationary enclosed rear section.

12. Perfection . . .

The heavy-duty body shown at right is typical of the 300 series dump bodies produced by Perfection Steel Body Co., Galion, Ohio. It is equipped with the company's Iso-Draulic Roll-A-Lift hoist, capable of lifting the body to a 50-deg. dumping angle. Standard dump models are available from 2 to 16 cu yd and there is also a line of stake bodies.

13. Gramm . . .

Although the Gramm name has been on automobiles, trucks and trailers as far back as 1899, the Gramm Trailer Corp., Delphos, Ohio, is a newcomer in the truck body field. Its current line of knocked-down Unisteel bodies were first mass-produced in 1946, but the bodies are now available through established body distributors in standard sizes from 10 to 16 ft with a variety of door and wheelhouse arrangements. All-welded high-tensile steel. Can be assembled and mounted in 12 man hours.

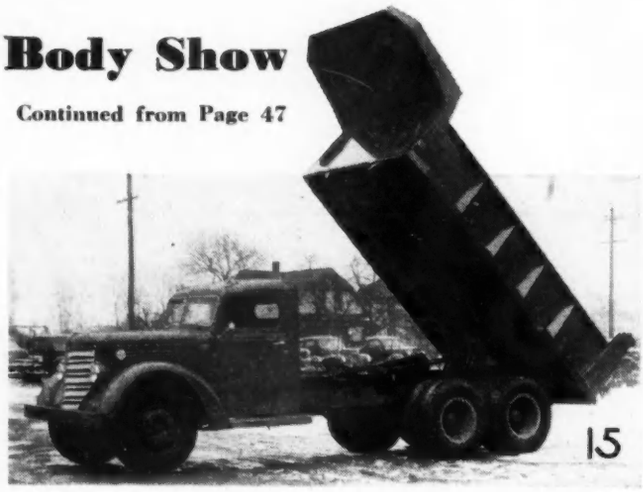
14. Lindsay . . .

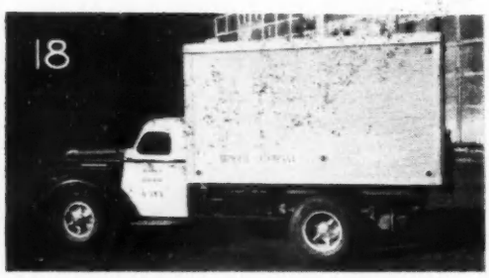
A brand new addition to the Lindsay Structure body line (The Lindsay Corp., Chicago) is the A.B.C. Package Master illustrated at right. Like all Lindsay structure bodies it is assembled in the field by authorized Lindsay Structure builders using completely fabricated components. It is available in three sizes to fit the new Chevrolet forward-control chassis and will be available for other chassis as well. In all, Lindsay manufactures 78,085 different panels and components, permitting assembly in the field of 864 standardized models using steel, aluminum stainless steel or combination of steel and aluminum.

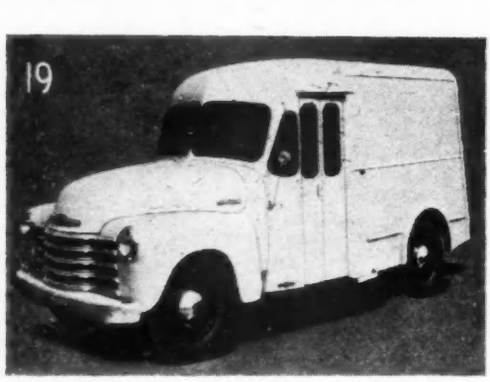
(Turn to next page, please)

Body Show

Continued from Page 47







15. Marion . . .

The Marion Metal Products Co., Marion, Ohio, offers a full line of truck and trailer dump bodies and 30 different hoist models. The big job, above left, is a 15 cu yd body carrying 22 tons of payload. The massive hoist has a 10-in. cylinder, a mounting height of 14 in. and lifts to 50 deg angle. A Marion feature is distribution of load over large area.

16. St. Paul . . .

The most popular model St. Paul dump body is the model BR with model 53 hoist shown above. It is available in water-level capacity of from 2 to 5 tons. In all, the St. Paul Div. of Gar Wood Industries, Minneapolis, makes dump bodies in a great number of sizes and types up to and including a 14 ft excavator model fabricated from ¼-in. steel plate and massive wrap-around I-beams. There is a corresponding hoist for each body size.

17. Fruehauf . . .

Fruehauf Trailer Co., Detroit, concentrates its truck body production on two basic types—wheelhouse and straight frame—and three lengths—12, 14 and 16 ft. But doors and other details may be so varied as to produce 500 optional combinations. Aerovan features include tubular steel side members, all-welded doors and hat-shaped floor channels.

18. Aluminum Co. . . .

Aluminum panels and extruded shapes fabricated from Aluminum Co. of America's Alcoa alloys find their way into many truck bodies. Typical is the 12 ft refrigerated job built by Armour & Co. (See cut) Complete with cooling unit, spare tire, etc., the entire truck weighs but 9450 lb.

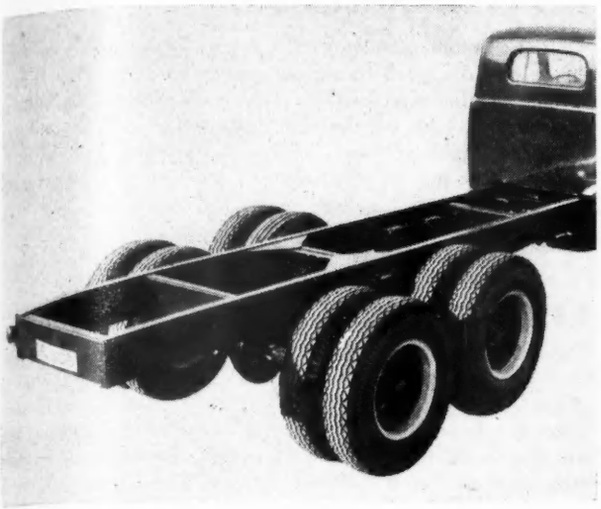
19. Oltman-O'Neill . . .

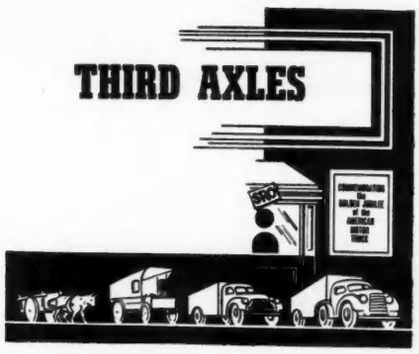
First pilot model of the new Packette Jr. delivery body by Oltman-O'Neill, Centerline, Mich., is illustrated at left. Designed for mounting on flat face cowl chassis in the ¾ to 1-ton range, it supplements the company's larger package and van models, features folding curb-side doors, all-steel, all-welded construction, large V-type windshield.

20. Atlas . . .

Atlas Body Corp., Philadelphia, has recently introduced a number of package delivery units of various styles to fit most of the standard light-weight chassis. Newest addition to the line is a heavy-duty model especially tailored to the Diamond T series 201 chassis and heavier units (see cut).

(Body Show—Continued on Page 248)



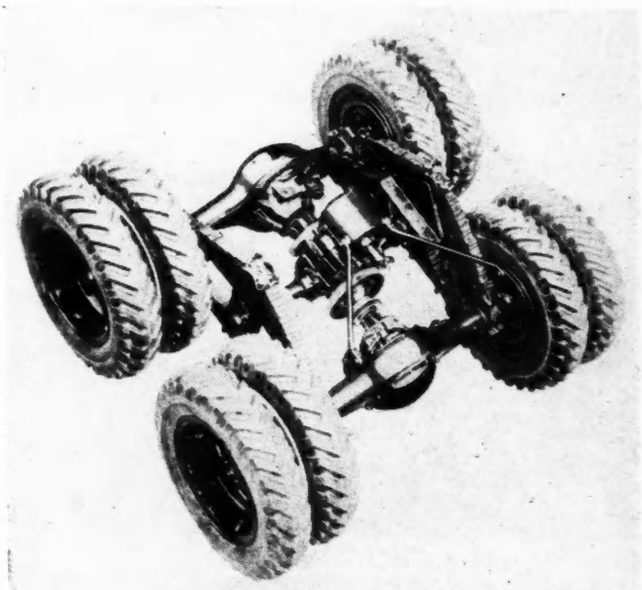


3rd AXLES

Current models offer new features and wide variety of types & sizes

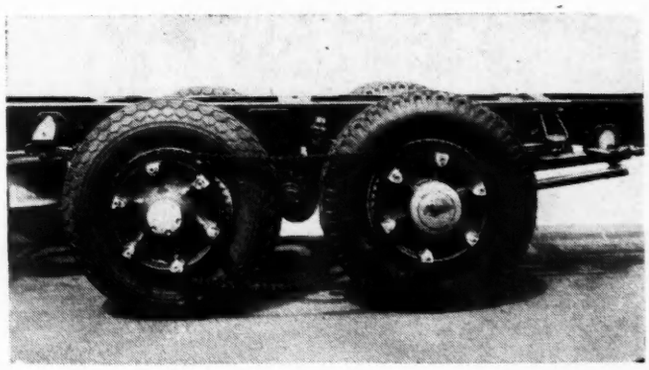
FABCO

Most popular model offered to date by the F. A. B. Mfg. Co., Oakland, Cal., is the Fabco 600 dual-drive attachment for the new Ford F-7 truck (see cut above). Incorporating two H-150 Timken axles (serviced regularly by Ford dealers) this model, like its companion model 300 trailing axle, attachment, gives the truck a gross vehicle weight of 36,000. There are smaller Fabco models in both dual drive trailing axles models giving the average 2-ton truck a gvw of 28,000 lb. All dual-drive models are furnished with transfer case incorporating direct and underdrive with declutch feature for second axle when added traction is not necessary. It is impossible to be in underdrive unless driving through both axles, a feature which provides minimum breakage of vital parts. A new heavy-duty transfer case for use in Fabco dual drives will be available Jan. 1, 1949, providing still heavier parts and new lay shaft which assures same rotation for both drive lines, and a slit-shaft power take off to give full torque at full engine speed. Fabco trailing axles units have 2½ in. wide springs of the walking beam type floating free on each axle, using rubber-bushed torque arms.



THORNTON

New 1949 Thornton 4-rear wheel drive units, manufactured by Detroit Automotive Products Corp., are of simpler and sturdier construction. They are available for most 1½ to 3-ton trucks and are said to double original payload capacities. The design has been simplified by the elimination of the trunnion ring assemblies which reduces lubrication points by 16 and removes wear plates, liners, trunnion blocks and bushings. Only the spring assembly requires lubrication and that only as often as does the chassis. The new Ball Torque design has fewer parts—all self-lubricated and enclosed in a flexible boot for protection against abrasion. The NoSpin Differential, made by the same company, is standard in the Thornton Drive gear case. The NoSpin provides automatic differential action between axles, without axle fight. This feature is also optional in each axle.



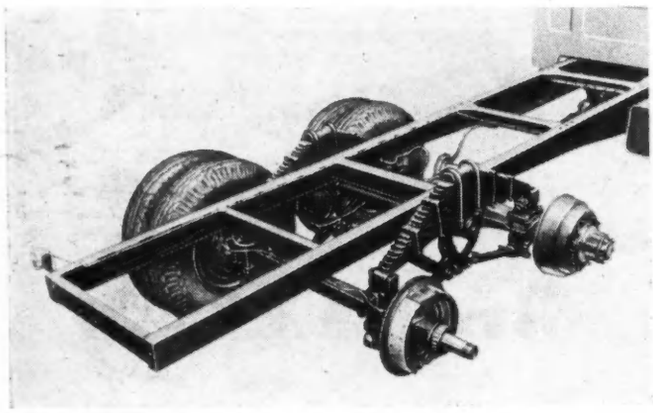
TRUCKTOR

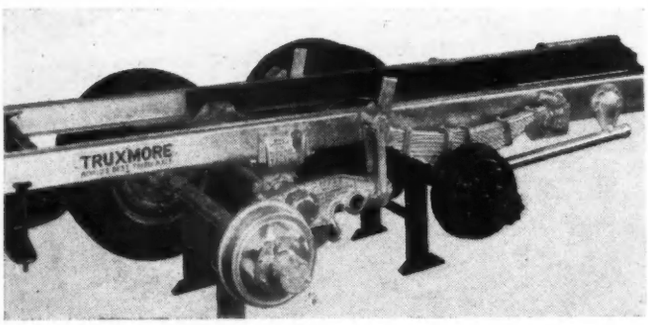
The Trucktor third axle, made by the Trucktor Corp., Newark, N. J., is made in four standard sizes with gross capacities (third axle only) of 11,000 to 21,000 lb. They can be adapted to virtually any truck. All models feature (1) a chain and sprocket load divider which automatically transfer a fixed percentage of load between the axles, (2) a torque arm and

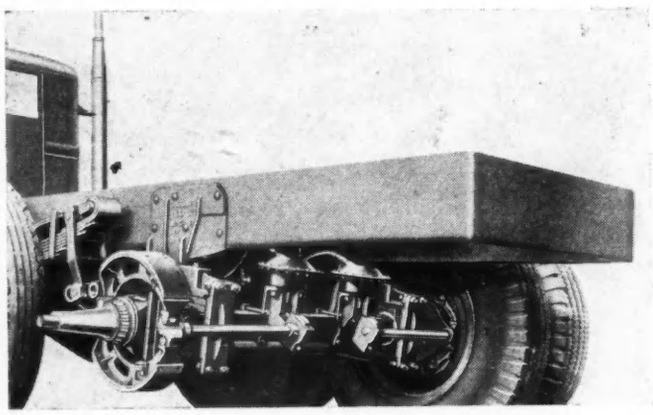
(Turn to next page, please)

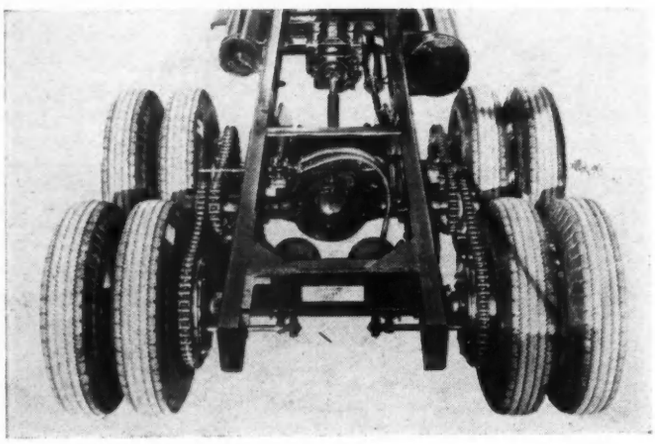
3rd AXLES

(Continued from Page 49)









TRUCTOR (continued)

hauling member consisting of a massive yoke which connects the axle to the truck through a rubber ball joint, (3) slipper springs at the rear bracket, rubber insulator-type bushings at the front, (4) one-piece, heat-treated steel axle and (5) the Trucktor detachable chain and sprocket 4-wheel drive which can be put on when needed, removed when emergency is over.

LITTLE GIANT

Ten-wheeler units made by Little Giant Products, Inc., Peoria, Ill., come in three sizes for trucks in the 1½, 2 and 2½-ton or larger ranges offering payload capacities from 10 to 15 tons. View at left with wheels removed shows inverted spring construction with torque arms adjustable for shaft and wheel alignment making it possible to keep wheel track always in line. Newest models are said to be the most rugged in company's 21 year history, require only 24 man hours for installation.

TRUXMORE

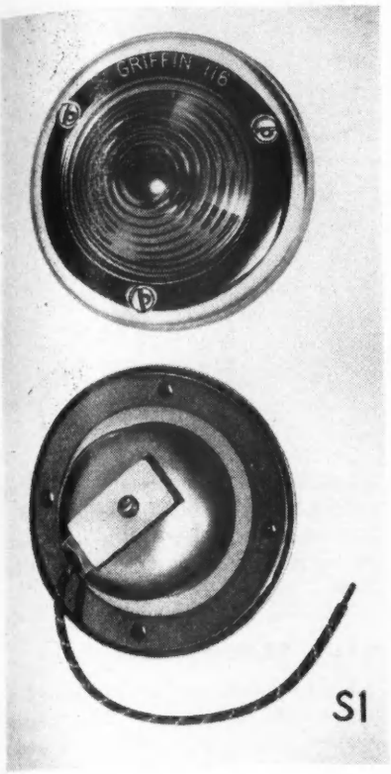
The Truxmore third axle is made in five sizes with axle capacities from 12,000 to 21,000 lb giving gross vehicle weights in a range from 28,000 to 50,000 lb. Built by Truck Equipment Co., Buffalo, N. Y., all models feature the Truxmore gravity spring suspension system which eliminates the need for leaf springs on the trailing axle and is said to produce an exceptionally smooth ride under all operating conditions. Clearly visible in the accompanying illustration is the Truxmore load divider which permits manual adjustment of the amount of load on each axle—more on the driving axle when needed for traction. Still other features include the use of a leaf spring brake torque, large oil reservoirs and spring leaf cross member which helps support load and at the same time takes up frame stresses and strains.

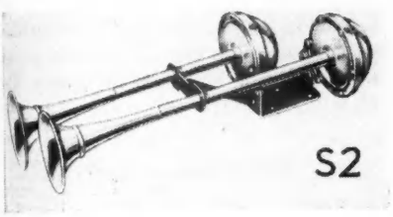
UTILITY

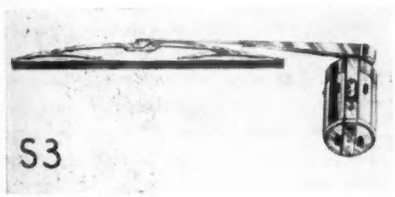
Three models of trailing axle attachments are made by Utility Trailer Mfg. Co., Los Angeles; their application being controlled by tire sizes of 8.25/20, 10.00/20 and 11.00/24 with capacities (third axle only) of 9000 to 18,000 lb. A new and important feature is the availability of Utility's new 10 in. brake made possible by the use of a one-piece brake shoe on two levels (see page 60 of this issue for full details.) All Utility third axle units have full universal action, said to completely eliminate wheel or axle bind, optional load distribution between driving and trailing axles, four-point frame support and unusual simplicity of design.

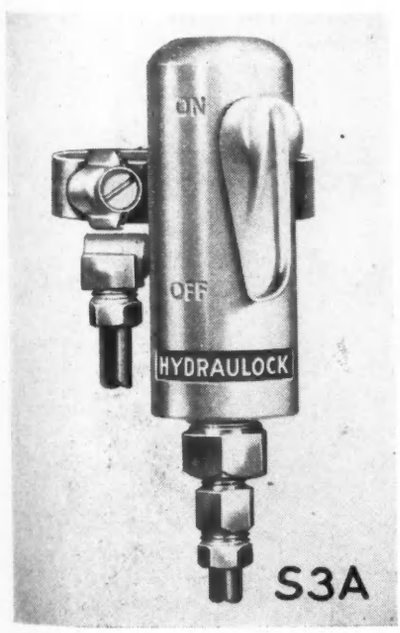
SUPERIOR

The unusual Superior four wheel center chain drive attachment illustrated at left utilizes a Timken 56,000 series differential with jack shaft arrangement mounted between the two load carrying axles, each of which is 4 in. solid round type with capacity of 18,000 lb. Twin sprockets and chains carry power to both forward and rear sets of wheels. It is made by Superior Trailer Works, Los Angeles. Company also makes three sizes of trailing axle attachments with tire size 7:50/20 for 9 ton loads; 8:25/20 for 11 ton loads and 9:00/20 for still heavier loads. Hydraulic brakes with Hydrovac and large reserve tank are standard on all; air brakes optional.









ACCESSORIES

SECTION 2

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SPECIAL VEHICLE EQUIPMENT..p. 59

Accessories for

Vehicle Safety

The newest devices for motor trucks, designed to save lives and property

S1. Marker Lamp

Vapor-proof clearance and marker lamp perfected for tank, refueler and other trucks where gas fumes in lamp bodies are particularly dangerous. Fumes, dust and moisture are sealed outside this flush-mounting lamp by means of a one-piece cast body construction, with moulded-in connector socket. Griffin Lamp Co., Hamilton, Ohio.

S2. Twin Trumpet Horn

"Tornado," twin-trumpet horn, brass chromium plated and streamlined, said to eliminate many of the objectionable features, expenses and service problems encountered with ordinary air and vacuum type horns. The Sparks-Withington Co., Jackson, Mich.

S3. Wiper Assembly

Windshield wiper assembly includes adjustable wiper arm and blade, mounting parts and switch. Motors are supplied with mounting and with stud lengths from ¾ to 3⅛ in. Wiper arms are available in two sizes: short, 6 to 9 in.; long, 9 to 12 in. Wiper blades range from 7¼ to 14 in. in length to meet all requirements. American Bosch Corp., Springfield, Mass.

S3a. Brake Lock

The HydrauLock supplements the emergency brake in ordinary parking,

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Accessories for Safety

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but it is primarily designed to afford control over braking action when a positive all wheel lock-up is desired to prevent vehicle roll-back, vibration, and strain on drive shafts, universal joints, etc., during "on the job" applications.

The steering column-mounted unit eliminates all cable controls and electrical connections. Brake lock-up obtained by flipping control handle and stepping on the brake pedal. Monroe Standard, Inc., Galion, Ohio.

S4. Vacuum Signal

Vacuum-operated truck and trailer signal constructed of five basic parts, including the complete motor assembly. Signal arm is said to be positive in action and position. Easily operated by "finger-tip" contact from the steering column, and has a pilot light indicating when arm is in signaling position. Vac-O-Lite Signal Co., Inc., Seattle, Wash.

S5. Safety Walk

"Safety-Walk" surfacing material for running boards, steps, ramps and catwalks affords non-slip safety underfoot even when covered with water, mud, oil or grease. Consists of hard mineral grains surface-coated on cleats of specially toughened fabric. Colors are silver red, green and black. It is applied with adhesive, with an underlaying compound available for leveling uneven surfaces such as corrugations in running boards. Minnesota Mining and Mfg. Co., St. Paul, Minn.

S6. Giant Stop Lamp

Model No. 200 Stop Lamp featuring heavy metal housing, stainless steel door, black enamel finish. Has red or amber lens, outline letters on black non-peel kiln-fired panel, 6-8 volt bulb, 32 c.p. Available with L-shaped bracket mounting or for flush mounting. The Griffin Lamp Co., Hamilton, Ohio.

S7. Hydraulic Hand Pump

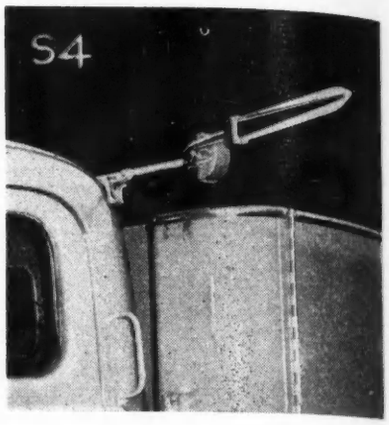
The hydraulic hand type operator for actuating internal valves in tank trucks transporting liquefied petroleum gas. Shand and Jurs Co., Berkeley, Cal.

S8. Clearance Lamp

The Grote No. 200 armored clearance lamp with plexiglass lens. Drawn steel walls further protect unbreakable lens. Additional shock resisting lenses and lamp units are available. The Grote Mfg. Co., Bellevue, Ky.

S9. Safety Tread

Rub-Bub Heavy-Duty safety pedal plate cut by manufacturer to fit any vehicle's brake, clutch and accelerator pedals. The synthetic compound is 5/16 in. thick and is said to be non-skid wet or dry. Poloroid Corp., Cambridge, Mass.



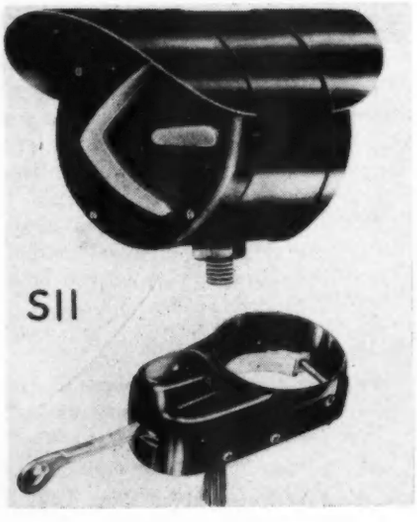
S10. Mirror Head

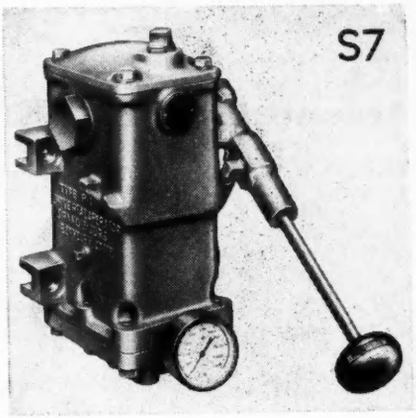
Fleet-designed rectangle mirror head, 3⅝ by 7½ in. Silver plate is sealed against deteriorating elements, and is set on a heavy cork gasket which absorbs shock and vibration. Has a universal mounting bolt and is finished with two coats metallic aluminum vehicle finish. The Griffin Lamp Co., Hamilton, Ohio.

S11. Direction Switch

Direction signal switch, compact and rugged. Adaptable to any size steering column from 1½ to 2¼ in.

Designed for installation with flasher, switch has a self-cancelling feature that cannot be thrown out of time by holding the lever when turning the wheel. There are no relays to adjust or burn out and a simple change of the pilot light bulb adapts it for a 6 or 12-volt system. The Grote Mfg. Co., Inc., Bellevue, Ky.





S12. Tire Cleats

Gripco "Individuals" for snow and Glare ice, feature a rubber tread, steel bands and locking device all integrated into a one-piece unit, plus detachable steel ice cleats.

Attached to the wheel individually; easily installed. Birma Mfg. Co., Inc. Buffalo, N. Y.

S13. Safety Switch

Pressure Clix, a pressure switch serving as the basis of warning signals and indicators for engine oil pressure systems and heavy-duty vehicle air brakes; for completing an electric circuit at any predetermined pressure to perform automatic mechanical functions for many purposes.

For oil pressure warning the Clix is mounted on the engine and connected to the oil line from the pressure of the pump ahead of the filter. For air brakes the unit is mounted in any location near the air tank or main air feed. A closed circuit has been designed to provide safety for air brake systems and will sound an alarm if air pressure drops below the safe working level. The Nason Co., Detroit, Mich.

S14. Bar Dual Chains

Tire chains for fleet owners, bar-reinforced dual pneumatic with triple side chains, provide gripping, caterpillar-like traction plus long wear. Cross chains are heat-treated. Feature electrically welded side chains and heavy quick-acting, positive-locking side chain fasteners. The American Chain & Cable Co., Inc., York, Pa.

S15. Sealed Beam Lamp

Sealed beam headlamp showing filament mount and positioning with respect to the reflector section. Aluminum vaporized on glass, does not tarnish, and as a sealed-in reflecting surface, is not subject to depreciation due to dust, dirt and moisture. Lamp Dept., General Electric Co., Cleveland, Ohio.

S16. Freight Guard Alarm

Audible alarm system for cargo protection from hi-jacking. Unit is automatic, occupies little space and operates free of cab or tractor. Assures protection against opening of doors or the moving of the vehicle. Field Engineering, Inc., Boston, Mass.

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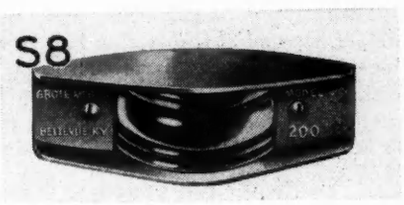

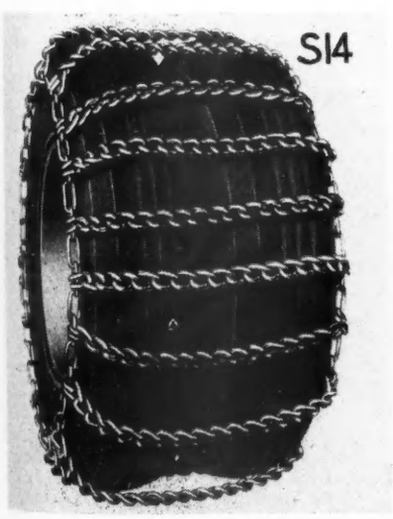

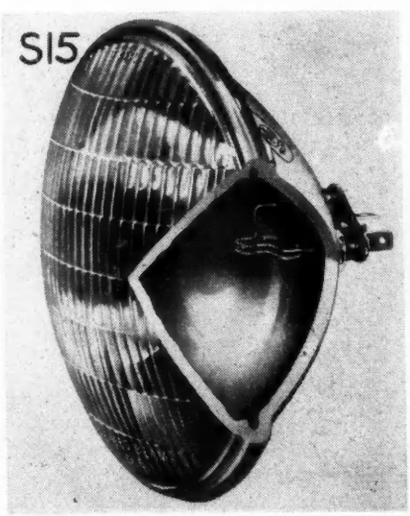

Accessories for Safety

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S17. Saddle Tank

The Snyder Saddle tank, light in weight, streamlined, featuring balanced construction, with a "flame guard" and fusible filler cap to protect life and property in road hazards. Capacity 75 to 125 gal. Snyder Tank Corp., Buffalo, N. Y.

S18. Brake Booster

A new 3rd axle vacuum hydraulic booster assembly designed to provide supplemental braking for trucks up to 2½ or 3 tons capacity.

Assembly includes a 6-in. vacuum power cylinder, a 1⅛ in. hydraulic master cylinder, a mounting bracket and leverage to deliver a line pressure of 800, 900 or 1000 lb. Can be installed simply and inexpensively on the trailing axle without the necessity of removing the vacuum hydraulic power system already in use on the truck. Velvac, Inc., Milwaukee, Wis.

S19. Ratio Changer

The Wagner Hydraulic Ratio Changer, a safeguard for driving on slippery roads, designed to reduce braking pressure on front wheels only, enables increased braking and steering ability with less possibility of dangerous swerving and skidding. Easy to install, this ratio changer is connected into the hydraulic brake fluid line leading from the master cylinder to the front wheels. The unit is put into action by means of a control button mounted on the dashboard. It then operates automatically to reduce braking imput to the front wheels when the road is slippery. Automotive Div. of Wagner Electric Corp., St. Louis, Mo.

S20. Brake Connection

The "Dreadnaught" electrical connection coupling-cable kit for all tractor-trailer combinations. Weather-proof, fully protected, can't freeze and snap off, pull out or break. Kit includes two coupling sockets, coupling cable, flexible rubber hose, cable supporting spring and clamp, with mounting bolts. Warner Electric Brake Mfg. Co., Beloit, Wis.

S21. Direction Signal

Improved Royson directional safety signal fabricated of bonderized sheet steel and enameled. Rust-proof for all-weather duty. Now equipped with 21 candlepower lamps, with new white enamel interiors.

Complete with a newly designed, heavy-duty control arm, fitting any steering post diameter, containing switch, pilot light, fuse and flasher. Royson Div., E. W. Carpenter Mfg. Co., Bridgeport, Conn.

S22. Air Horn Kit

Model 410 horn with the free-floating disc sound unit, which produces a signal instantly on any air pressure and never needs adjustment. Gives a soft, polite signal with as little as 3 lb of air pressure. Buell Mfg. Co., Chicago, Ill.

S23. Brake Control

The Grizzly Hydraulic Brake Control, said to assure equal and simultaneous application of breaking pressure to all four wheels. Minimizes brake grabbing and skidding and increases brake lining life.

Almost doubling hydraulic braking pressure, the new device provides extra braking power for emergency stops with less physical braking effort required of the driver. The Grizzly Mfg. Co., Paulding, Ohio.

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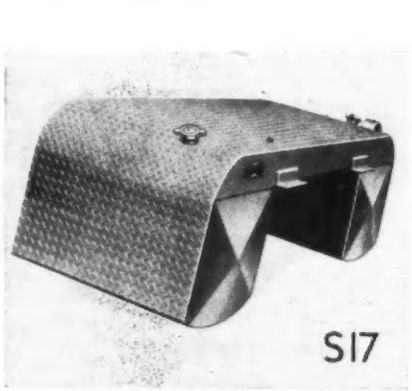

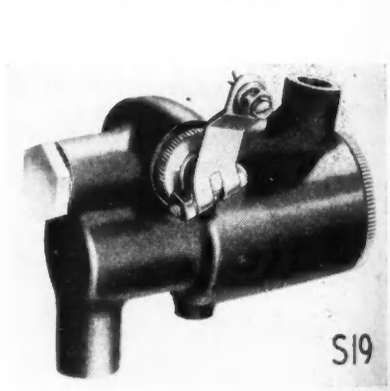

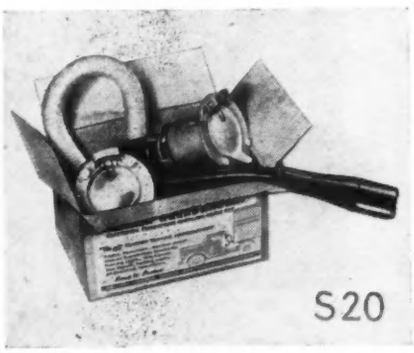

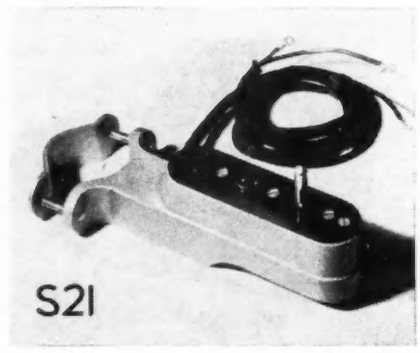

Accessories for

Driver Comfort

Parts and attachments designed to improve driver morale and boost efficiency

C1. Cab Upholstery

Tolex, for upholstery and interior trim, cuts easily, tailors well, is easy to apply. Is scuff and stain-resistant. Dirt, grease, oil and many acids can be removed with the application of a damp cloth. It is waterproof and can be made resistant to fire as well. Texileather Corp., Toledo, Ohio.

C2&3. Hydraulic Seat

Featuring hydraulic shock absorber and suspension mechanism that soak up jars and jolts the Bostrom driver's seat is said to cut driver fatigue and improve employee morale. Fore and aft adjuster accommodates shortest to tallest drivers. Seat has all-steel frame with bearings moving in rubber. Cushion has a 3-in. bonded foam rubber pad. Bostrom Mfg. Co., Milwaukee, Wis.

C4. Heater Unit

Compact design, over 200 cu. ft. air per min., and improved air distribution feature the B & B line of cab fresh air heaters deluxe. The Special model, as well as defroster kits and appliances are available from the company. The Bishop & Babcock Mfg. Co., Cleveland, Ohio.

C5. Gasoline Heater

The Southwind gasoline type cab heater designed for instant, economical heating of cab or passenger car. Installation takes relatively little time. Powered by gasoline from vehicle's supply, unit is said to be trouble free and universally adapted to all vehicles. Stewart-Warner Corp., South Wind Div., Indianapolis, Ind.

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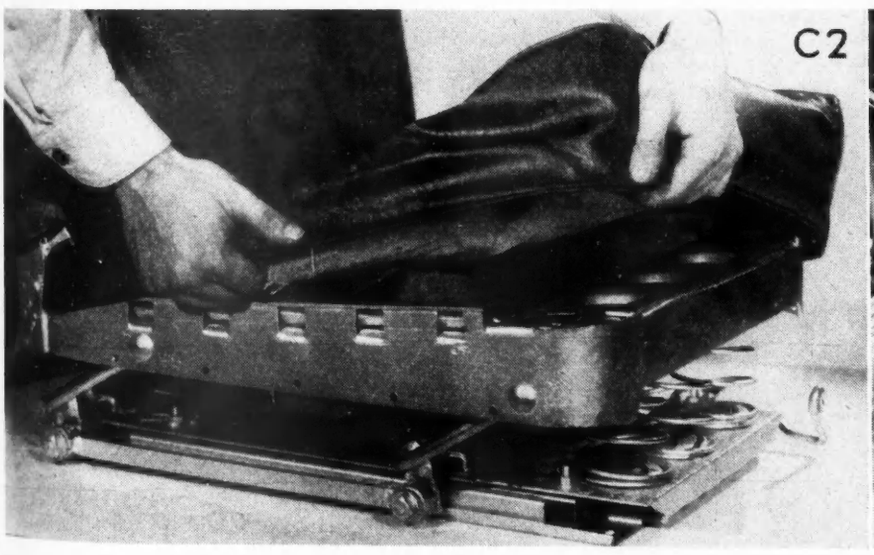

Accessories for Driver Comfort

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C6. Shock Absorbers

Heavy-Duty Rotary Shock Absorbers suitable for installation on nearly all types of commercial vehicles. Help protect the pay load from damage, improve gasoline mileage, reduce their tire wear, and guard body and chassis from damage caused by excessive side sway and bouncing. An important safety factor since they contribute to overall vehicle stability. Houdaille-Hershey Corp., Buffalo, N. Y.

C7. Fresh Air Heater

The Eaton fresh air truck cab heater providing greater capacity and improved cab ventilation. All air is forced into the heater from the outside and after being heated is directed either to cab or to windshield for de-frosting and de-icing. Stale air and fumes are constantly forced out through the door cracks, floor openings and other small holes about the cab. Air is completely changed once every 45 sec. Eaton Products Co., Cleveland, Ohio.

C8. Cab Heaters

Features of the C805 Super Power heaters are as follows: an over-sized core; two-fan design for greater distribution of warm air throughout the interior of the vehicle; and greater deflection to the defroster nozzles for positive defrosting. E. A. Laboratories, Inc., Brooklyn, N. Y.

C9. Sun Visor

Side visors to match the front visor provide all-weather protection from sun, and glare, snow and rain on each side as well as the front of the vehicle. The die-stamped shields are bonderized, spray-painted and baked. AiRite Mfg. Co., Toledo, Ohio.

C10. Sun Visor

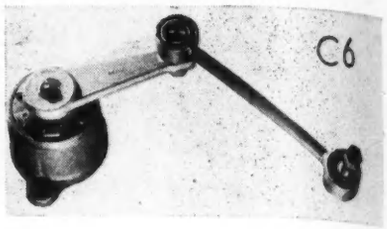
Adjustable sun visor, easily installed and attached to either side of cab to protect against direct or side sun glare. 10-in. arm is equipped with ball-and-socket bracket, permitting easy adjustment. Fulton Co., Milwaukee, Wis.

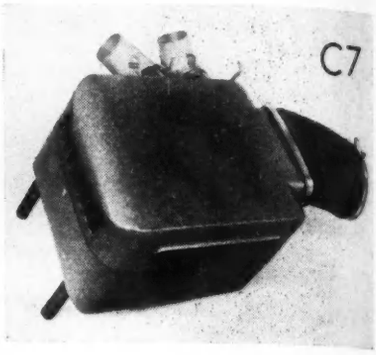
C11. Ventilating Fan

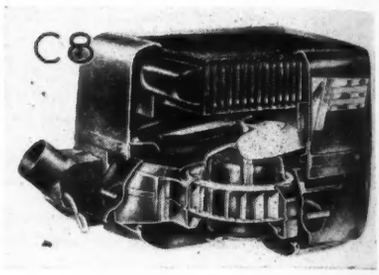
The Fulton Two-Blade Fan No. 596 distributes air over entire windshield and front window areas to keep them free of frost. Used also as a ventilating unit in summer weather. Blades are rubber. Attached to steering post or window ledge. Fulton Co., Milwaukee, Wis.

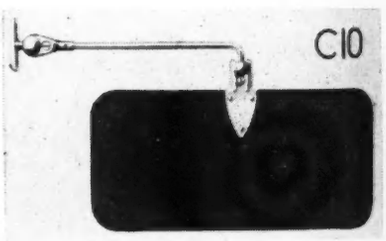
C12. Shock Absorbers

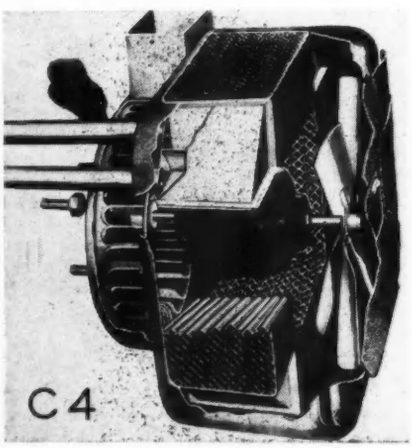
The Rowland line of shock absorbers includes rotary-type; direct-action type; conversion kits for Ford-Mercury and heavy-duty shocks for Ford trucks. Units are calibrated to provide a soft, level, easy ride. William & Harvey Rowland, Inc., Phila.

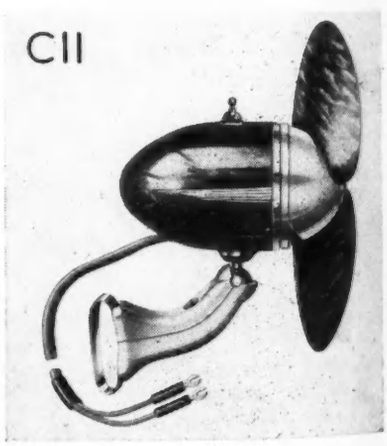


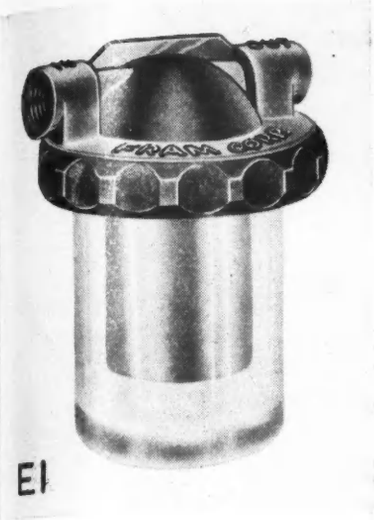












Accessories for

Operating Economy

New products which will improve vehicle efficiency, cut road breakdowns, save cargo

E1. Gasoline Filters

A new type gasoline filter with replaceable cartridges for keeping carburetors and gasoline lines free of dirt, water and sediment. Cartridges are inexpensive and can be changed while the truck is being gassed. Other units are available in oil and engine cleaners, crankcase air filters, fuel oil filters. Fram Corp., Providence, R. I.

E2. Tachograph

The Sangamo Tachograph, for keeping accurate trip records and for "time-study" of truck and bus fleet operations. The instrument records on a chart the speed of a vehicle in miles per hour, distance traveled, running, idling or stopping of the engine. All of this recording is synchronized with recorded time. The Automotive Division of Wagner Electric Corp., St. Louis, Mo.

E3. Trip Recorder

The Markley Register records time and mileage and relates each to the other. Provides a written log of the work of vehicle and operator. Special features record excess speed, cancel out minor stops, record tamperings, in such a way that the instrument produces a complete picture of activity over any desired period of time. Markley Corp., Plainville, Conn.

E4. Vari-speed Governor

Vari-speed engine governors offer the following features: wide range of governed speeds without the necessity of change in governor assembly; reduction of flutter; stability at no load without sacrificing sensitivity at full load; simple design and corrosion-free construction. King-Seeley Corp., Ann Arbor, Mich.

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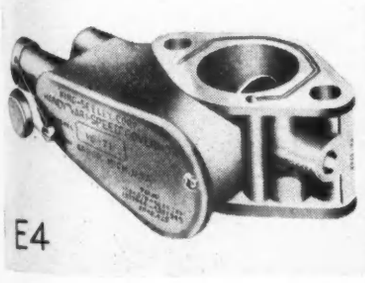

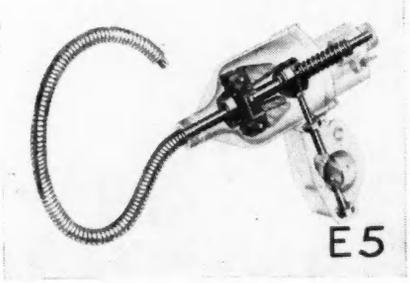

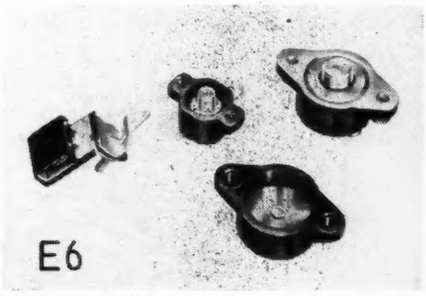

Accessories for

Operating Economy

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E5. Engine Governor

Providing positive control of either engine rpm or miles-per-hour of the vehicle, the Pierce Road-Speed Governor is said to help prolong tire-life, reduce maintenance costs, eliminate high-speed accident hazards, and provide driver comfort.

E6. Circuit Breakers

Klixon automatic and manual reset circuit breakers for protecting circuits from damage due to overloads and short circuits. Available in sizes and ratings from 5 amperes through 150 amperes. Weatherproof, units use a bimetallic disc to withstand shock and vibration. Spencer Thermostat Co., Attleboro, Mass.

E7. Alcohol Evaporator

Designed as a safeguard against possible interruption of braking service in extremely cold weather the evaporator consists of a reservoir for ordinary methyl alcohol which is automatically absorbed by the air brake system through the line to the compressor air intake. Container is refilled as operating conditions demand. Bendix-Westinghouse Automotive Air Brake Co., Pittsburgh, Pa.

E8. Butler De-Scaler

Installed in the upper radiator hose of truck engines, the Butler De-Scaler is said to eliminate cooling system troubles due to scale, rust and corrosion. Device works like a galvanic cell, causing minerals in water to drop to the bottom of radiator, where they can be drained off. Does not interfere with anti-freeze or stop-leak. Butler Engineering Co., New Orleans, La.

E9. Oil Filter

The EM-142 ClarOfier for Mack trucks. This line of filters offer these features: high efficiency, ease of service, substantial construction. Body of the unit is made of ⅛-in. pressed steel. W. G. B. Clarifier, Inc., Kingston, N. Y.

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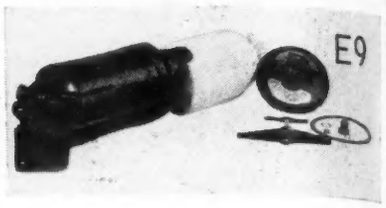
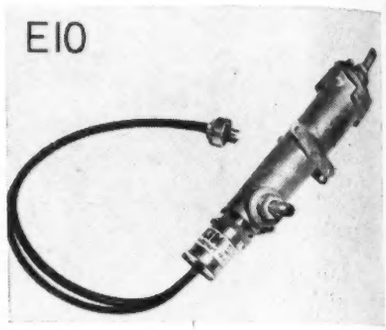
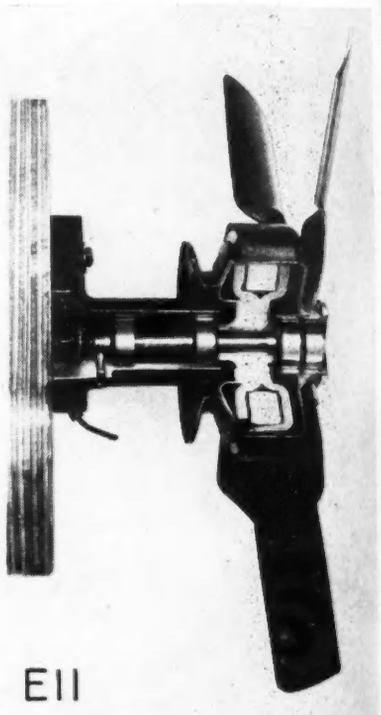
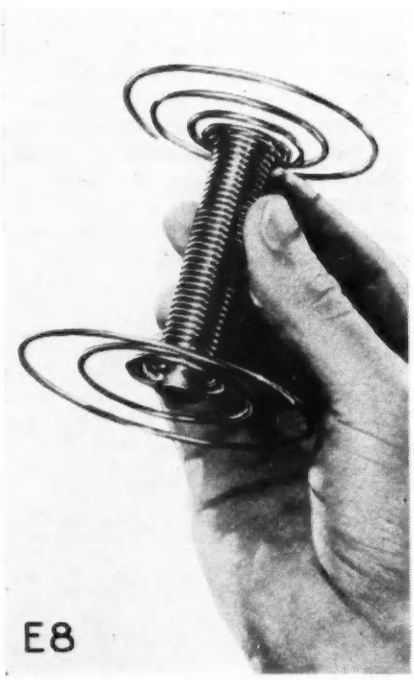
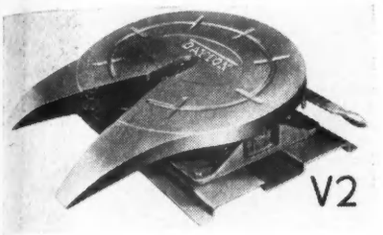




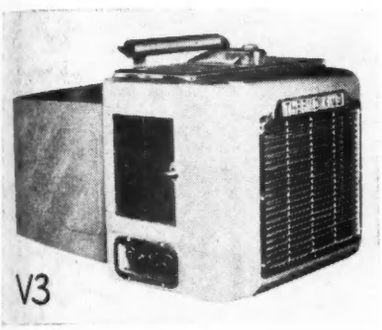


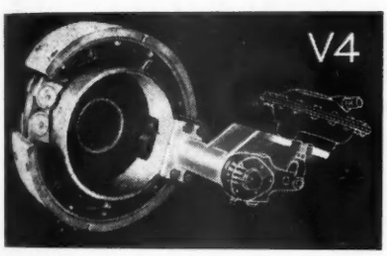


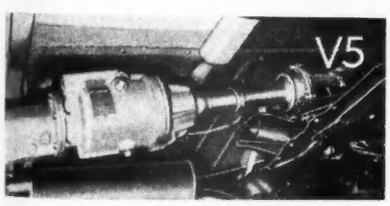


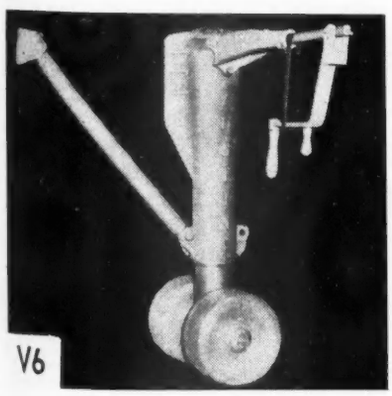
Special
Vehicle Equipment

The newest developments in fifth wheels, winches, overdrives, wheels, brakes, etc.









V1. Fifth Wheel

Model 1000 full-floating, semi-automatic, rubber-mounted fifth wheel, claimed to be trouble-free and long-wearing. Lock completely wraps around both the upper shoulder and neck of the king pin utilizing the positive gear rack and sector principle of actuation. There are only three wearing parts—the sliding lock, hinged lock and hinged lock pivot pin. Features rubber mountings, an oversize cross shaft, heavy bearings and Alemite grease fittings.

V2. Improved Fifth Wheel

The Dayton Fifth Wheel designed for quick coupling and positive operation. New unit is full 34 in. wide with a height reduction from old design of 1½ in. This is accomplished by reducing the distance from the center of the rocker pin to the top of the fifth wheel thereby lessening the slap of the lower fifth wheel on the upper fifth wheel when coupling. Unit features a simple locking device, larger coupler jaw hub. The Dayton Steel Foundry Co., Dayton, Ohio.

V3. Refrigerating Unit

The Thermo-King Model R refrigerating unit showing one-piece housing construction. Units feature light weight, allowing more payload, compact assembly and easy installation. U. S. Thermo Control Co., Minneapolis, Minn.

V4. Heavy-Duty Brake

Austin's Heavy-Duty Brake, straight air type, designed to give easy, safe stops. These replacement foundation systems are used for building heavier brakes for vehicles which will be carrying heavier than normal loads. Brake shoes take ¾ in. x 5 or 6-in. linings, providing 400 and 480 sq in. of lining surface. Austin Trailer Equipment Co., Muskegon, Mich.

V5. Chevrolet Overdrive

The Truckstell Tip-Toe-Matic Overdrive for Chevrolet cars reduces engine speed by 28 per cent to provide operating economy and improved engine operation. Truckstell Mfg. Co., Cleveland, Ohio.

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For More Details on These Products Mail the Free Postcard on Page 128

Special Vehicle Equipment

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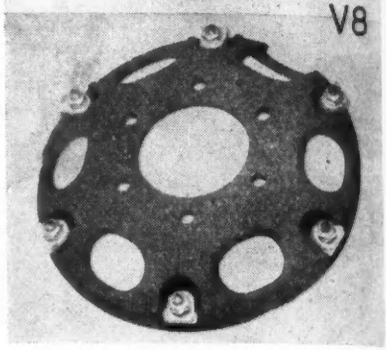

V6. Austin Speed-E-Lift

The Austin Trailer Props feature ease of operation combined with efficient lifting ability. Mechanical (crank-operated) lift has a ball bearing screw said to provide for smooth transmission of power to load. For ramp and dock loading of trailers, these Safe-T-Props are designed for static load up to 25 tons. Available in both steel and aluminum. Steel weighs 323 lb. Aluminum weighs 218 lb. Austin Trailer Equipment Co., Muskegon, Mich.

V7. 10-In. Brake

Utility 10-in. brake for use on trailers operating under heavy-duty work. New design makes use of a one-piece shoe to obtain the 10-in. width in braking surface. Ribbed offset shape brake drum provides strength, and flanged rim reinforces drum against stresses that cause bell-mouthing. Orifices between the two braking surfaces of the drum provide for circulation of air and cool operation. Additional effective brake surface improves braking without lower pressure per sq in. being required. This is said to result in lower operating temperatures and longer lining life. Cross section drawing shows design of braking surface. Utility Trailer Mfg. Co., Los Angeles, Cal.

V8. Changeover Wheels

Dayton cast steel ventilated change over wheels designed for replacement of disc wheels and may be mounted on disc wheel hubs. Made especially for demountable rims and therefore require the carrying of only one spare tire for tractor and trailer since they interchange between the two vehicles. The Dayton Steel Foundry Co., Dayton, Ohio.

V9. Power Take-Off

The new Model S Power Take-Off featuring Timken tapered roller bearings supporting all main shafts, with idler gears mounted on needle roller bearings. Manufactured in all regular pitches and pressure angles common to the motor truck industry. Braden Winch Co., Tulsa, Okla.

V10. Braden Winch

The Braden Model M50-20B winch with a rated capacity of 100,000 lb on the first layer of rope. Gear ratio is 48 to 1. Unit has full cab controls for drum clutch and cable drum band brake. Equipped with an oil-cooled, fully adjustable automatic safety brake. Recommended for use with tower power take-off or split shaft take-off. Braden Winch Co., Tulsa, Okla.

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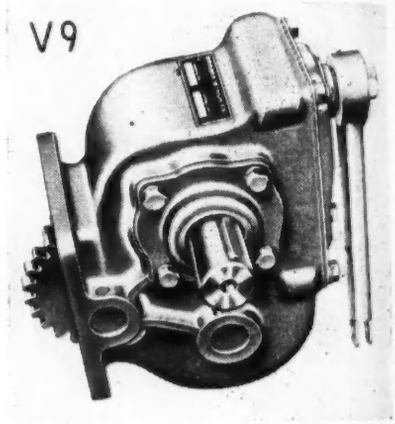

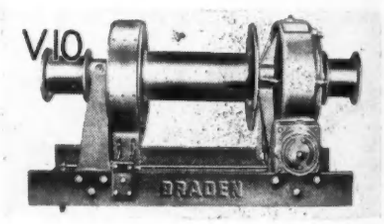

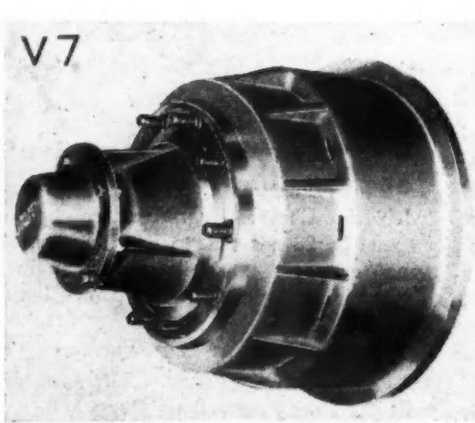

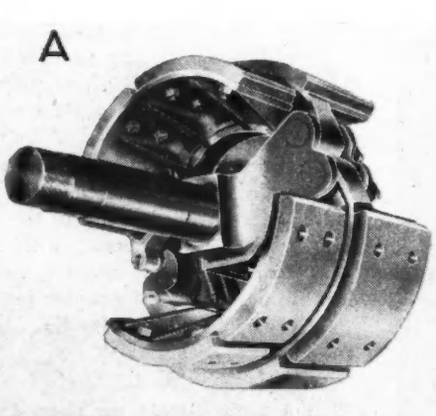

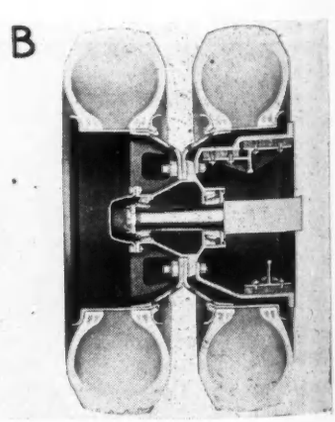

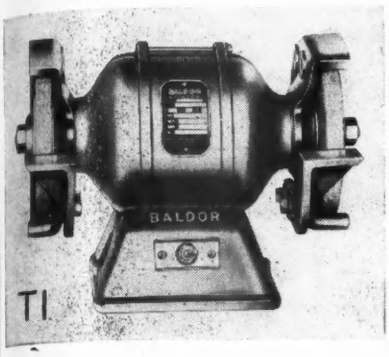

EQUIPMENT SHOW

SECTION 3

SHOP TOOLS .....page 61

SHOP EQUIPMENT .....page 61

Shop Tools and Equipment

A comprehensive listing of newest products designed to improve vehicle service

T1. Bench Grinder

The 82 series ball bearing grinders feature dynamically balanced armatures, vibrationless operation; equipped with first grade, fast cutting tools. Other models include the 6100 grinder-buffer series, pedestal type unit and the carbide tool grinder, series 500. Baldor Electric Co., St. Louis, Mo.

T2. ½-in. Electric Drill

New, light-weight, heavy-duty ½-in. electric Silver Line Drill, designed for continuous, stall-free drilling. Drill weighs 7 lb, has a highly polished, mirror-like die casting case, a free speed of 500 rpm, full ball-bearing construction, removable dead handle, steel bearing inserts, removable switch handle for simple service, precision gearing, 3-jaw Jacobs key type chucks. Independent Pneumatic Tool Co., Aurora, Ill.

T3. Heavy-Duty Sander

7 in. high speed heavy-duty sander for production or maintenance work. Amply powered for metal finishing, removing scale and rust with wire brush and for smoothing welds and casting ridges with cup grinding wheel. Streamlined design with improved straightline ventilation assures cool motor operation. United States Electrical Tool Co., Cincinnati, Ohio.

T4. Electric Polisher

The new Thor electric polisher has a larger gear case to house gearing that reduces the tool's speed to 1400 rpm. Weighing 9 lb and measuring 14¼ in. in length, it is fitted with the bumper guard and special spindle lock. Independent Pneumatic Tool Co., Chicago, Ill.

T5. Battery Charger

The Handifast battery charger and tester plugs into any 115 volt ac line to make a discharge test of a 6-volt battery and to charge it in 30 minutes at an 80-ampere rate. Unit has a selenium rectifier stack, D'Arsonval meter. Weighs 46 lb and is portable. Baldor Electric Co., St. Louis, Mo.

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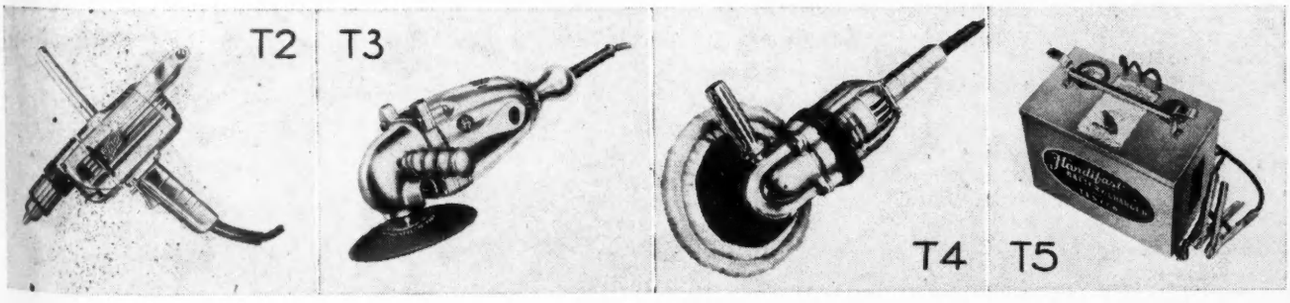

Shop Tools and Equipment

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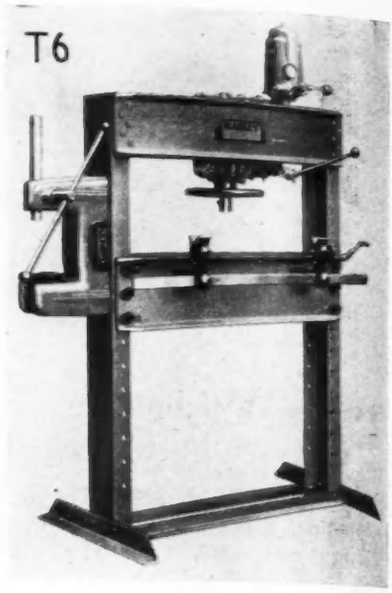


T6. 60-Ton Press

Air-operated hydraulic 60-ton floor press features constant ram speed, movable head, 3-speed change, safety overload valve, protected packing, adjustable pump handle. Operates on 150 lb air pressure, 12 cu ft per min. Has a height of 74⅛ in.; occupies a floor space of 36 x 68½ in. and weighs 1040 lb. Manley Mfg. Div., American Chain and Cable Co., Inc., York, Pa.

T7. Brake Drum Lathe

For passenger cars and light trucks. Redesigned for better and longer service. Now mounted on a solid table of reinforced steel. Fully enclosed motor. Additional storage bins for optional equipment — New style, quick-acting feed clutch engages instantly. Lempco Products, Inc., Bedford, Ohio.

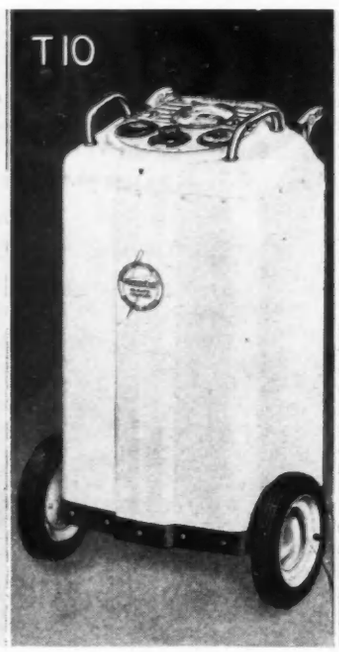
T8. Valve Shop

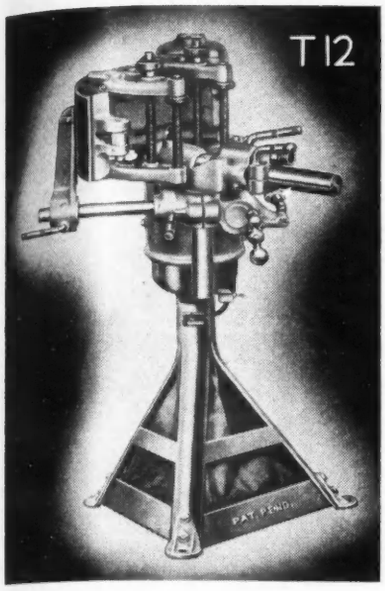
Skil Valve Shop includes a valve refacer, valve cabinet, and the complete kit of valve seat grinding equipment. Standard equipment includes a coolant system for wet grinding, with a large splash guard and separate settling tank to prevent recirculation of metal particles. A built-in butt grinding fixture with micrometer adjustment for grinding to an accuracy of .001 in.; a depth gage for measuring correct valve lengths is standard equipment.

Three individual motors provide correct driving speed without complicated gearing for the work head, grinding wheels, and coolant pump. Skilsaw, Inc., Chicago, Ill.

T9. Piston Expander

The McQuay-Norris Permasizer, a machine for expanding used pistons—iron and steel as well as alloy—to the proper size for worn cylinders through the use of an electric furnace method. This machine makes use of a unique internal expanding tool of special hardened, stainless steel that allows the expansion of the complete skirt of the piston to restore the original cam shape of the piston. McQuay-Norris, St. Louis, Mo.





T10. Charger-Tester

For 6 or 12-volt batteries at a high rate (100 ampere) charge. Features a dual selenium rectifier, dual heavy-duty transformer and a new type circuit breaker to protect both battery and charger. Equipped with a D'Arsonval battery condition indicator, a charging rate ammeter, electric time clock and switch. Battery tests can be conducted in 30 sec. Marquette Mfg. Co., Inc., Minneapolis, Minn.

T11. Portable Charger

Willard Portable Charger designed for "take-to-car" emergency service. Can be used for both slow and rapid battery charging. Plugs in to any standard ac outlet. Weight 28 lb. The Willard Storage Battery Co., Cleveland.

T12. Brake Shoe Grinders

Thomason Micro Brake Shoe Grinders feature a method of interlocking micrometer with the grinder after measuring the drum, thus transferring the exact size to the grinder. Model 35B has a steel base, ball bearing motor, fan and dirt collector. Can be used on bench or mounted on pedestal. Shepard-Thomason Co., Los Angeles.

T13. Brake Drum Lathe

The Blue Streak Special Brake Drum Lathe Model B-20, features 10 cutting speeds, rheostat controlled, handles 7½ to 16-in. drums. A grinder, heavy-duty truck equipment and outboard support can be added to make a universal model for all types of brake service. Barrett Equipment Co., St. Louis, Mo.

T14. Valve & Tool Grinder

No. 6 Universal Valve and Tool Grinder expands the range of valve grinding capacity which the Black & Decker equipment can handle. Flat head and 15 deg valves are handled without special attachments or trick adjustments. Valve stem capacity ranges from ¼ in. to 1¼ in. and valve head capacity up to 5¼ in. Large diesel valves are adapted to the grinder.

An air chuck is used to grip or release the valve stem. A "controlled" speed work head motor is adjustable to accommodate large and small sized valve heads. A switch slide bar automatically controls the work head motor so that the motor runs while the valve or tool is being ground and stops when the table moves away from the wheel. Black & Decker Mfg. Co., Towson, Md.

T15. Piston Pin Fitting

Model Pm-100 Piston Pin Fitting Machine designed to bore piston, piston pin end of the rod and face large end of rod. Tobin-Arp Mfg. Co., Minneapolis, Minn.

T16. Block Welder

The "Wonderwelder" method of repairing heat and freeze cracks in cast iron blocks and cylinder heads. Machine is portable and plugs into any 110-volt outlet, as it requires less than a fifteen-ampere fuse.

Cracks are welded without heating the casting above engine operating heat. The repair is machineable and is almost invisible when finished off. Will repair any spot that can be reached by a long thin rod. Miller Mfg. Co., Camden.

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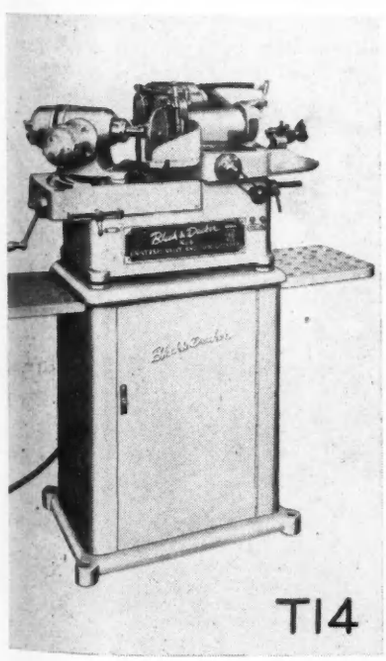

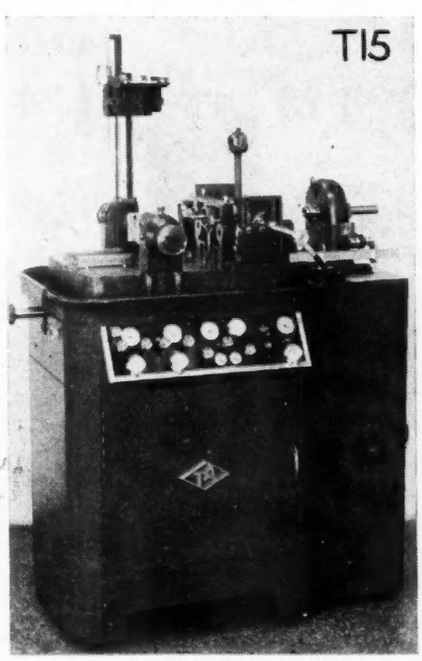

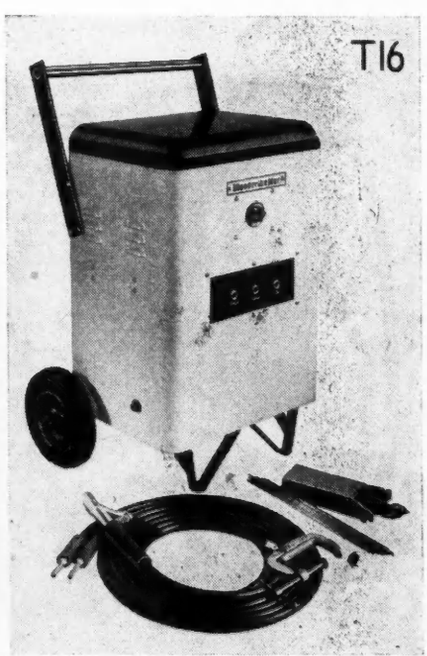

Shop Tools and Equipment

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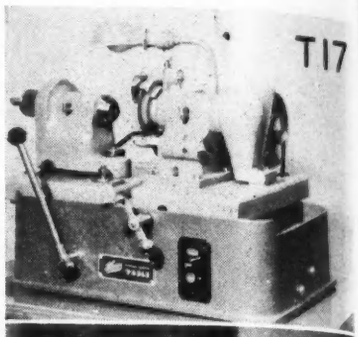

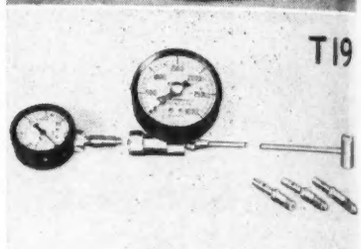

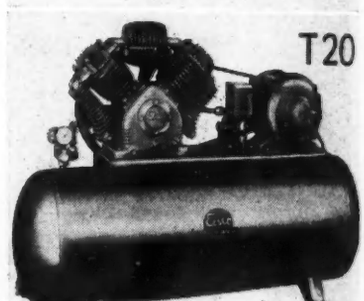

T17. Valve Refacer

The Thor Valve Refacer, designed for precision, wet grinding, equipped with a double-grip collet and new speed chuck for fast, precision valve refacing at all standard angles.

Double-grip collet is hardened, ground and internally lapped, gear driven by its own individual motor. New speed chuck permits even large butt-end valves to be admitted and released with only one turn of the new 2¼ in. hand wheel. Independent Pneumatic Tool Co., Aurora, Ill.

T18. Truck Tire Tool

Truck tire removing tool for the new advanced type wheel with rims which have the 5-deg taper bead seats and are 2- or 3-piece.

These tools pull out the wheel and then pull the combination flange and bead seat. Sufficiently powered for all jobs. Bishman Mfg. Co., Osseo, Minn.

T19. Brake Pressure Gage

Gage for testing hydraulic pressures in braking systems. Attaches easily to any one wheel to determine pressure in whole system. Needle on large gage holds maximum pressure reading, so that one man can pump the brake and read the test result. Shows residual pressure, which should be 5—10 psi to prevent entry of air into hydraulic systems. The New York Air Brake Co., New York, N. Y.

T20. Compressor

New design compressor for operation at air pressures of 175 lb or more. Features include replaceable cylinders; interchangeability of parts; precision type bearings; improved flywheel design offering maximum cooling; cast flange type inter- and after-coolers replacing tubing and pipe fittings; full floating wrist pins; intake and exhaust valve assemblies of new design—removable without disturbing any air connections; intake and exhaust valve parts interchangeable. The Electric Sprayit Co., Sheboygan, Wis.

T21. Gas Register

Bennett Fleetmeter Model 589, designed to give speedy, dependable gasoline delivery to fleet trucks. Large

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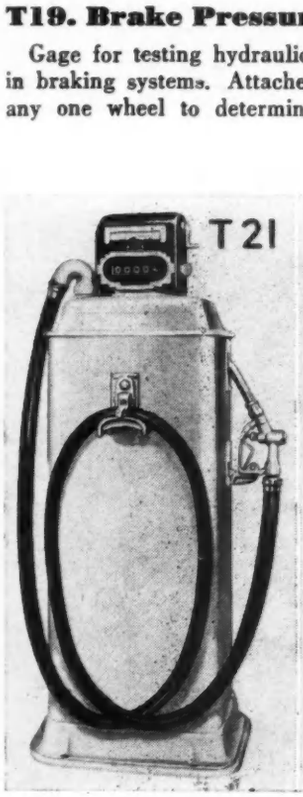

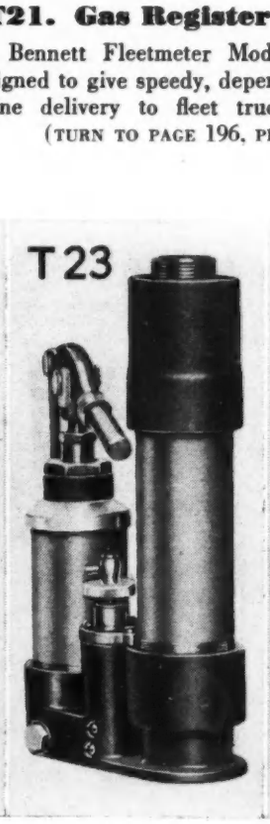

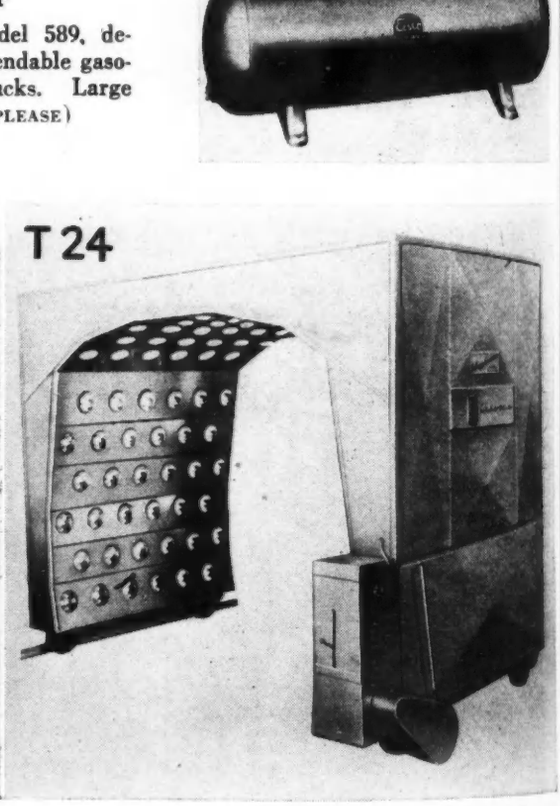

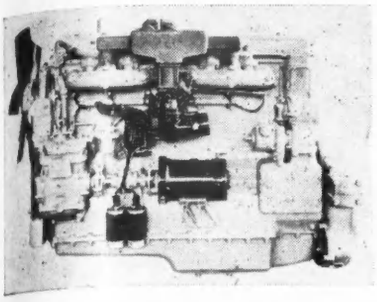

PARTS SHOW

SECTION 4

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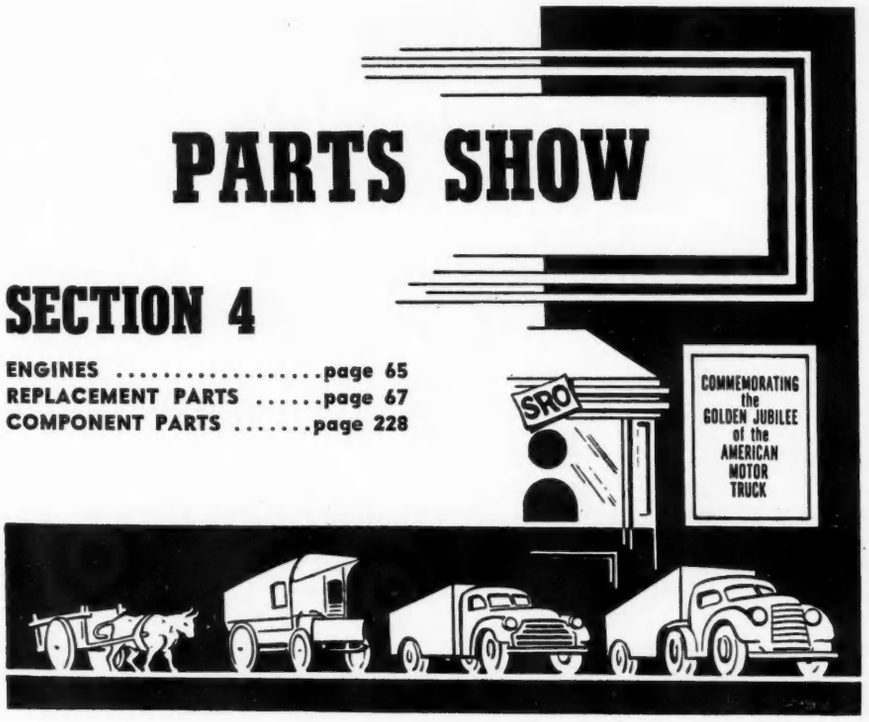
REPLACEMENT PARTS .....page 67
COMPONENT PARTS .....page 228



ENGINES

Brief review of sizes, hp ratings, models of gasoline and diesel engines available from manufacturers

Hall-Scott 400 Series

Current production Hall-Scott 400 Series range from 855 to 1090-cu in. displacement and from 223 to 276 net hp from 2200 to 2000 rpm. Available for gasoline, butane-propane-natural gas fuels. This engine features overhead valves, twin ignition available with distributor for battery operation or with battery and magneto system, a replaceable cylinder block eliminating need for sleeves. Standard equipment includes the Hall-Scott designed governor, Zenith updraft, four-venturi carburetor, a water-cooled oil cooler and an alloy-steel heat-treated crankshaft mounted on seven main bearings. Slip-in precision bearings are of steel-back, copper-lead construction. Bore and height of the replaceable cylinder block constitute virtually the only difference between the three models.

Hercules Motors

The Hercules line consists of 56 models ranging from 3 to 500 hp—including 14 series of gasoline engines and 32 models from 3 to 275 hp, and 39 to 935 cu-in. displacement; and 14 series of diesel engines and 30 models from 9 to 500 hp with 133 to 1468-cu in. displacement.

Model TDXB, a high-speed, heavy-duty gasoline engine is a 6-cyl power plant with 4⅜-in. bore and 5¼-in. stroke. It develops 162 hp at 2600 rpm. Piston displacement is 474 cu in.

RXLDH, center, another high speed, heavy-duty gasoline engine is a larger type with a 4¾-in. bore and 5¼-in. stroke. It develops 180 hp at 2600 rpm and has a piston displacement of 558 cu in. The stripped engine weighs 1470 lb.

Model DIX, 6D, left, is a small 6-cyl diesel, with a 3⅝-in. bore and a 4-in. stroke. It develops 93 hp at 3000 rpm. Piston displacement is 248 cu in.

Hercules diesel engines are the solid injection, compression ignition, 4-stroke cycle type designed for high-speed, heavy-duty service. Torque characteristics are maintained at a high level over a wide range of speeds. They start quickly and easily on fuel oil with a conventional electric starter.

Model QX shown at right below is a 6-cyl gasoline engine covering the smaller field.

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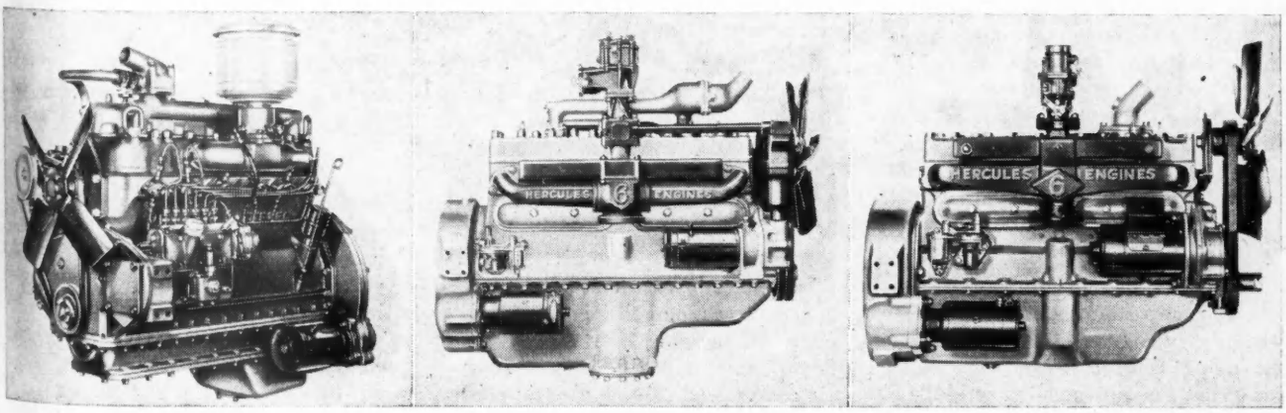

Engines . . .

(Continued from page 65)

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Buda Diesels

The Buda diesel line consists of four series of 4, 6 and 8-cylinder engines ranging in hp from 40 at 2400 rpm to 300 at 1800 rpm. Features of the line include the slow pressure combustion system, overhead valves, interchangeable wet-type cylinder liners, Tocco-hardened crankshafts, interchangeable con-rods with precision type bearings, high capacity oil pump, a positive feed oil pump with large capacity oil cooler.

Continental Motors Corp.

Continental gasoline engine line includes 9 series of engines in 21 models ranging from 68.7-cu in. displacement to 748.8, in hp ratings from 26.8 at 3000 rpm to 247.5 at 2600 rpm. The diesel line includes the KD, the TD and the RD series with displacements of 329.4, 427.2 and 571.7 cu in. respectively. Maximum bare engine hp at maximum governed speeds is 86.2, 111.8 and 150 respectively.

Model R-600 series is heavy-duty gasoline engines ranging in net hp from 110 to 160. These Red Seal engines feature the fuel induction system, individual porting, 7 replaceable main bearings, counter-weighted, drop-forged crankshafts, and dual overhead valve type cylinder heads.

Cummins Line

The Cummins line consists of four series of diesel engines, 4 and 6-cylinder in seven models and sizes. Two supercharged engines are available in the HBS-600 and the NHBS-600. The line provides horsepower ratings from 100 at 2200 to 275 hp at 2100 rpm. Displacement ranges from 377 cu in. to 743 cu in. Feature of these engines is the Cummins fuel system, providing for accurate fuel metering, preparation of the charge and controlled injection. Fuel is delivered at comparatively low pressures from a single plunger pump which insures that each cylinder receives the proper predetermined amount of fuel.

Waukesha Line

The Waukesha line of gasoline engines in current production includes five series of engines in 11 models ranging from 27.5 hp to 157 hp. The diesel line consists of two models, the 190DLB providing 60 brake hp at 1800 rpm; and the 148DK, a 779-cu in. engine developing 159 hp at 1400 rpm.

The High Duty Diesel Six, 148-DK, is equipped with American Bosch ignition system, arm type bell housing for three point suspension, gear driven water pump, lubricating oil cooler, 12-cu ft air compressor, 24-volt electric starter, electric heater in intake manifold and dual thermostats. Features seven bearing crankshaft, copper-lead precision bearings, aluminum alloy pistons, chrome plated top piston rings, stellite inserts for intake and exhaust valve seats and the Waukesha combustion chamber.

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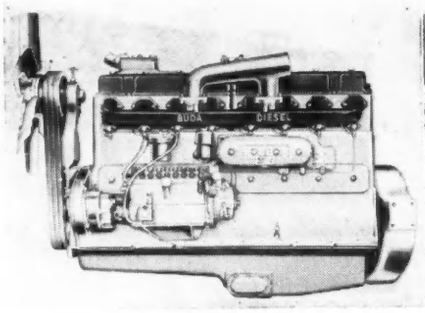
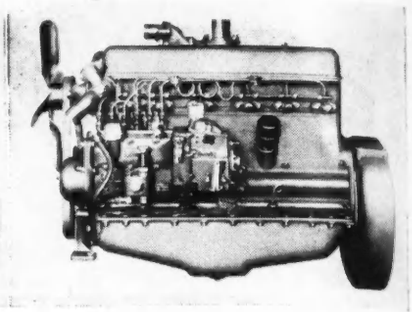
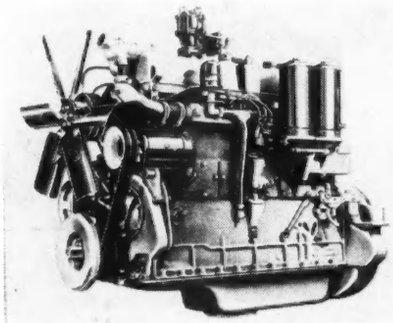


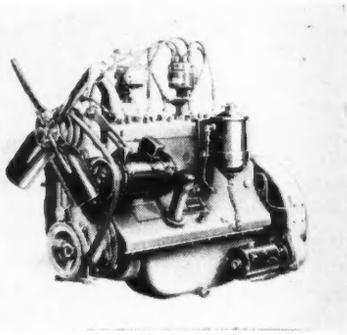
Model 8DC-1125 Buda diesel.



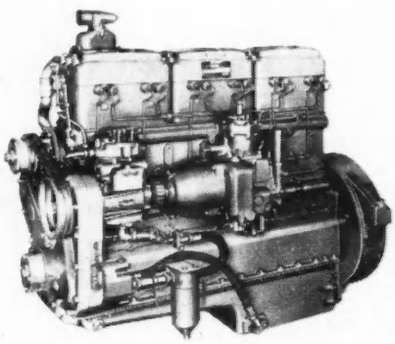
Model 6BD-230 229 cu in. diesel.



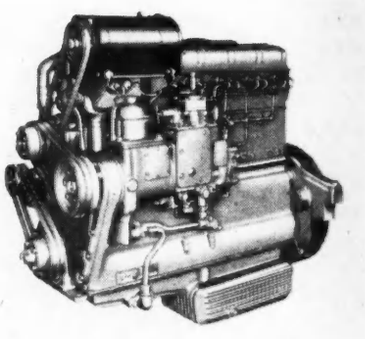
The R600 Continental gasoline job.



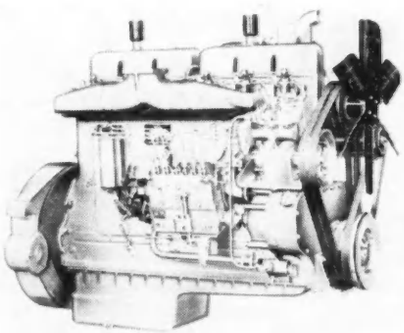
F600 series in 45 to 60 hp.



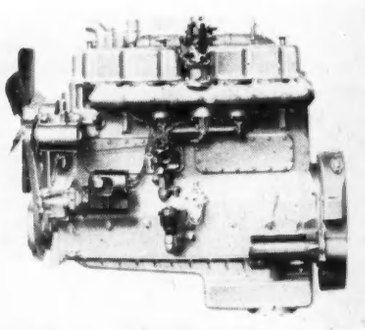
Cummins HBR-600 series diesels.



The AA-600, 337 cu in. diesel.

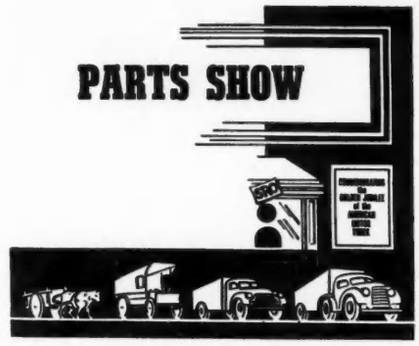


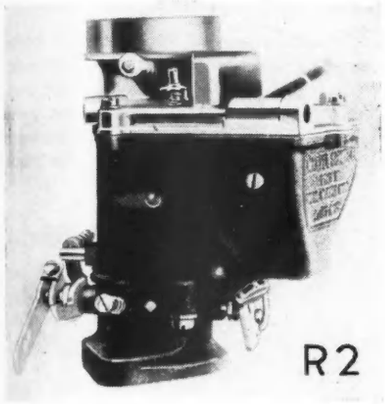
The 148-DK High Duty Diesel.



Waukesha's 145-GK gasoline job.

R1

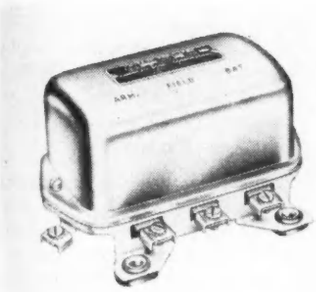


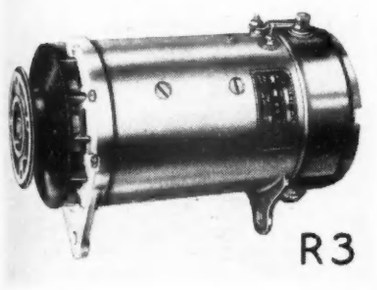


R2

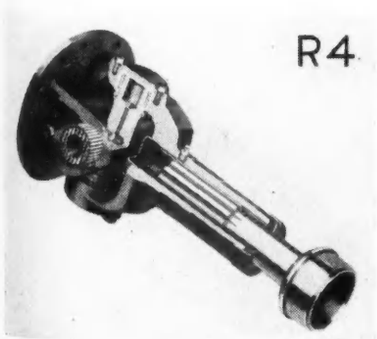
Replacement Parts

Listing new styles, models and types of replacement parts for motor vehicles





R3



R4

R1. Spark Plugs

Goodrich's commercial spark plug designed to give quick starting, economical operation and long-life. B. F. Goodrich Co., Akron, Ohio.

R2. Carburetor

Downdraft carburetor available from Marvel-Schebler Carburetor Division, Borg-Warner Corp., Flint. Mich.

R3. Generator - Regulator

Type GRB special service generator is tailored for 2-way radio and radio telephone vehicles. Cut-in speed is low. With a 3½-in. pulley the 6-volt delivers 12-15 amperes output at engine idling speed and a full 45 amperes at from 10 to 15 mph.

New type RGR heavy-duty regulator used with the GRB generator for radio-equipped vehicles. Double control provides full-range voltage regulation. The American Bosch Corp., Springfield, Mass.

R4. Universal Joint

Cutaway view of Spicer heavy duty needle bearing Universal Joint as used in main drive line for all automotive uses. Spicer Mfg. Div. of Dann Corp., Toledo, Ohio.

R5. Plugs and Batteries

An improved spark plug with aluminum exide insulator. Other features are a thermo-electric seal between metal shell and insulator, spunon, leakproof gasket and jumbo electrodes of a special alloy resistant to corrosion and providing maximum firing efficiency.

An extra heavy-duty battery with "Endurite" separators, hard rubber case, extra electrolyte capacity, safety vent covers. Thomas A. Edison, Inc., West Orange, N. J.

R6. Brake Cylinder

Hycon Compound Hydraulic Brake Cylinder, an all-hydraulic master cylinder and power brake, providing improved braking with less driver effort for all ¾, 1, 1½ and 2-ton trucks and buses. A second piston within the Hycon cylinder gives the driver ample pressure for every braking requirement. Full driver control of brake pressure eliminates over-braking. Unit is installed and serviced as easily and quickly as an ordinary master cylinder. The New York Air Brake Co., New York 17, N. Y.

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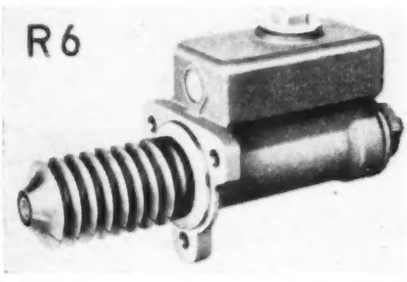
For More Details on These Products Mail the Free Postcard on Page 128

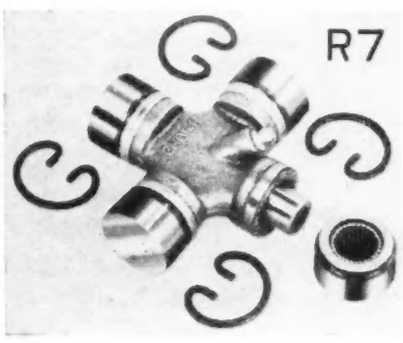
Replacement Parts

(Continued from Page 67)

R5



R6



R7

R8

R7. Universal Joints

Universal joints and parts as well as power-take off joints for dump bodies, hoists, etc. With Neapco joints mechanics can replace Universal joints in over 90 per cent of the automotive vehicles. New England Auto Products Corp., Pottstown, Pa.

R8. Silvertown Tire

The Highway Express Silvertown tire built for long, high speed truck hauls. Nylon shock shield used in all sizes, 7.00-20, 10 ply and upwards. Features more miles before recapping, more recaps before discarding the tire, less danger of tread separation, greater bruise resistance. B. F. Goodrich Co., Akron, Ohio.

R9. Storage Battery

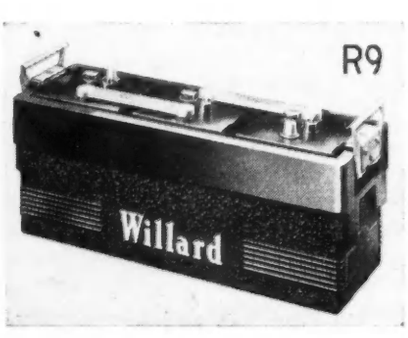
Willard Heavy-Duty Transport Batteries built with heavy plates and assembled in hard rubber containers designed particularly for commercial applications. TRG types, built with Willard Rubber Insulation and glass fibre retaining mats, are recommended for severe high mileage service. Willard Storage Battery Co., Cleveland, Ohio.

R10. Generators

Typical of the electrical equipment offered to the replacement market by Auto-Lite is the generator shown above. In addition Auto-Lite also makes starting motors, coils, distributors, voltage regulators, resistors . . . a complete electrical and ignition system. The Electric Auto-Lite Co., Toledo, Ohio.

R11. Piston Rings

Wausau Piston Rings used both as original equipment and for replacement. The Oilsavr ring is said to insure longer ring life, eliminate drag and permit adequate lubrication. Oilsavr will not carbonize. Wausau Motor Parts Co., Wausau, Wis.



R9

R10

R12. Headlight Relay

Dual headlight relay, Model TB 101, said to assure full headlight power at all times because of an attachment feature for mounting directly unto the headlight terminal blocks, which eliminates complicated wiring as well as need for drilling holes. Features a dual relay system whereby each of the two relays is fused to its own individual beam. A short circuit in one beam will not affect the other headlight. The Deco Electrical Mfg. Corp., Albany, N. Y.

R13. Hydraulic Brake

A complete line of hydraulic brake parts. Including wheel and master cylinder repair kits, hydraulic brake hose and stop-lite switches and their component parts such as boots, cups, pistons, valves, seats and other necessary hydraulic repair parts. Grizzly Mfg. Co., Paulding, Ohio.

R14. Chrome-Faced Rings

Pedrick Chrome-Faced Piston Ring for heavy-duty truck and bus engines. High anti-friction and lubricant-retaining characteristics of chrome increase the wear-life of this top-groove compression ring in engines operating under heavy loads, and also where abrasive dust conditions exist. Wear on the cylinder wall and on all the other rings in the installation also is reduced. Life of the installation is said to be increased from two to four times. Wilkening Mfg. Co., Philadelphia, Pa.

R15. Inner Tube

Highly resistant to heat, to stretch, reinforced, made of butyl rubber, these tubes are said to hold air longer. Full molded, latest type leakproof valve, seamless construction. Cooper Tire and Rubber Co., Findlay, Ohio.

R16. Piston Rings

A complete line of Moog X-Plus Piston Rings for cars and trucks; also two other lines—the Moog Expan and Moog Unitrol lines, including the larger size rings for trucks, buses, and tractors. Moog Industries, Inc., St. Louis, Mo.

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GOLDEN JUBILEE

OF THE

AMERICAN MOTOR TRUCK

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THE FIRST

Commercial Gasoline Delivery Wagon in the U. S.

Reprinted from the *Horseless Age*, October, 1898

Evidence indicates that Winton "Delivery Wagon" of 1898 was first production model

***by* GEORGE T. HOOK,** Editor

THE YEAR 1948 is the Jubilee year of the commercial gasoline motor vehicle in the United States.

In the year 1898—50 years ago, almost to the month—*The Horseless Age*, pioneer automotive trade publication, announced in its October issue the "first commercial gasolene delivery wagon in the U. S."

The issue containing this announcement carries a picture of this first commercial delivery wagon, which is reproduced on this page. It is a Winton. An article devoted to the Winton Motor Carriage Co., Cleveland, Ohio, in this same issue, has this to say:

"The Winton Co. now have three styles of vehicles on the market—a phaeton, * * * a two-seated carriage, * * * and a delivery wagon, the first commercial gasolene delivery wagon manufactured in this country.

"The phaeton is a very strongly built vehicle, weighing 1325 pounds. The tangent wire wheels are made of ¼-inch spokes, and are fitted with 2-inch pneumatics.

"The motor is a 6-H.P. single cylinder horizontal gasolene engine of the Otto type, with 5 x 6 inch cylinder and speed variable from 200 to 1,000 revolutions by means of the intake."

There follows a mechanical description which includes a counterbalanced crankshaft ("the eccentric rod attached to a moving weight suspended on an arm, which counterbalances the movement of the piston, and thus reduces vibration to a minimum"); finger-tip steering ("the regular pivoted hub steering is employed, the lever being easily moved with two fingers"); something special in brakes ("to apply the brakes the power must first be thrown off"); and driver comfort that has not since been equaled ("vibration, noise and odor have been done away with in the Winton vehicles").

Then comes this statement:

"The two-seated carriage is mechanically identical with the phaeton, the only difference being a more powerful motor. The same is true of the delivery wagon, eight of which are now in course of construction."

There is no evidence available to contradict the statement that this Winton was the "first commercial gasolene delivery wagon manufactured in this country" and that it was manufactured in 1898. All other references to delivery wagons in *The Horseless Age*, dating back to its first issue in November, 1895, indicate

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GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK

PAST & PRESENT
SECTION 5

Truck Milestones in THE HORSELESS AGE

Historical highlights of the truck industry's progress during the first fifty years of its commercial existence in the United States

Editor's Note: It would take volumes to tell the complete story of the motor truck from that day in 1898 when the first commercial motor delivery wagon was offered for sale. Therefore, it will seem presumptuous of COMMERCIAL CAR JOURNAL to have attempted even an abridged chronology. But the editors did not wish the Golden Anniversary of the motor truck to pass without chronicling at least the major milestones in the industry's progress. They did not know it at the time, but to find and record just these major milestones they undertook an herculean task. They pored over more than 1500 issues of The Horseless Age and COMMERCIAL CAR JOURNAL bound in volumes that have been gathering the dust of half a century. In those issues the editors scanned more than 100,000 pages of published material and hundreds of thousands of individual items. In choosing the limited number of items which comprise this chronicle the editors are aware that their selections may have done an injustice —by omission—to some devices, developments and even events. But space, in magazines as in truck bodies, is limited, and it is hoped the omissions will be pardoned by those who have a sentimental attachment for them. However, if anything of more than partisan significance has been omitted, the editors would like to know what it is so that they may add it to this chronicle in a subsequent issue. As a brief history of a vehicle which has developed into an efficient instrument of highway transportation and become a vital part of the life stream of business and industry and of civilization itself, this chronicle will prove a rewarding experience to newcomers, and a nostalgic pastime to the old-timers to whom this portion of the commemorative issue is affectionately dedicated.

1898

First commercial gasoline delivery wagon manufactured in the United States announced by Winton Motor Carriage Co., Cleveland, Ohio.

Pittsburgh Motor Vehicle Co., Pittsburgh, Pa., grandparent of Autocar, making passenger cars, announced that "by substituting a suitable box for the seat, the phaeton may be converted into a delivery vehicle."

1899

Horse sellers worried: "There were 300,000 less horses in the United States on Jan. 1, 1899, than on Jan. 1, 1898. This fact speaks for itself."

United States Post Office Department conducts experiments collecting mail with motor vehicle in Buffalo, Cleveland and Washington, D. C.

W. T. McCullough, Boston, establishes first "stable for renting motor vehicles."

Duryea Mfg. Co., Peoria, Ill., introduces light delivery wagon. Mechanical features: Three-cylinder engine, 4½ x 4½; single lever in the center of the seat steers, changes speeds, and stops or starts; 800 lb. gvw.

New York insurance company undertakes new line of business: "It insures owners of motor vehicles against loss by litigation for the period of one year for $15."

Early conversions: "Martin Payne, a wagonmaker of Troy, N. Y., is applying gasoline motors to two delivery wagons belonging to local merchants."

Tire development milestone: "At least one brand of motor pneumatics is known to be carrying weights of 1½ to 2 tons quite successfully. But use on trucks is still a long way off."

Generally admitted that ignition is most bothersome part of the gasoline engine.

Wave of motor vehicle and driver licensing starts. Chicago driver's fee is $3 for first year and $1 for renewals.

Problem of commercial motor vehicle users: Drivers being enticed by private car owners with offers of higher wages. Driver training schools urged.

Goodyear Tire & Rubber Co. disposes of solid rubber tire manufacturing facilities, stakes all on future of pneumatics.

1900

Dawn of Twentieth Century finds public greatly interested in motor vehicles. Three types of prime movers stand at top of list: steam, electric and gasoline engine, each having its adherents.

The garage is born: enterprising builders offer "portable barn" for motor vehicles shipped knocked-down, assembled with screw driver.

Early standardization problem: Where should the driver sit—on the left side, right side, or in the center?

Cudahy Packing Co., Milwaukee, experiments with "gasoline truck delivering its goods about the city."

Development of pivot steering gear improves steering, permits use of four wheels of equal diameter.

Selden patent battle begins, so-called "Lead Cab Trust," comprising group of prominent financiers and manufacturers of electric vehicles, acquires broad patent granted to George B. Selden on Nov. 5, 1895, for "a motor vehicle comprising a gasoline engine, a power shaft and an intermediate clutch or disconnecting device." Demands royalties from all gasoline motor vehicle manufacturers, fails to collect and starts series of court battles which are to last for 11 years. There are 31 concerns actively engaged in manufacture of motor vehicles, with working capital of around $10,000,000.

Timely political note: Plank of Republican platform reads, "Public movements looking into a permanent improvement of highways of the country meet our cordial approval."

Wave of municipal legislation is started to control speed of motor vehicles. Majority of municipalities favor 6-mph limit.

(Turn to next page, please)

Truck Milestones in the Horseless Age

Continued from page 71

1900 (Cont.)

Motor vehicle operators lose patience with manufacturers who employ a variety of screws and bolts with special threads, "expecting, thereby, to monopolize the repair of vehicles of their manufacture." Standardization urged.

Chicago stages The First International Automobile Exhibition and Tournament. Feature attraction: Jack Worth demonstrates reliability, flexibility and simplicity of control of Chicago Gasoline Delivery Wagon. Drives it up grade of 30 deg.

The B. F. Goodrich Co., Akron, O., buys U. S. rights for Michelin clincher tire, first demountable tire.

First CO casualty: Frank R. Ford, automobile owner, of Yonkers, N. Y., "overcome in his barn by some mysterious gas."

First automobile show: Automobile Club of America stages "mammoth show" at Madison Square Garden, New York City. Thirty-one makers of automobiles and 20 of accessories and parts represented. Some radical innovations: gasoline engine placed in the front of the vehicle under bonnet (hood to you, son) for the first time by American makers; Columbia and Daimler delivery wagons have the engine crankshaft lengthwise, Rambler and Winton crankshaft crosswise; alro: round steering wheel, float-feed carburetors, and governors on ignition.

Municipal park commissioners in many cities require all motor vehicle users to display "license number in figures not less than 2 in. in height and on lamps of each vehicle, license number in figures not less than 1 in. in height."

National Association of Automobile Manufacturers organized.

Flag waving, light swinging and other similar ordinances against motor vehicles gradually being rescinded.

Section of 1899-model Goodyear pneumatic tire. It was fastened to wheel by a number of bolts, each with lock nut, to bosses built in tire

1901

Theft prevention: Most manufacturers provide some means for locking gasoline throttles, ignition switches or other parts of vehicle.

Increased use of gasoline motor vehicles throughout winter months brings demand for anti-freeze solutions.

Need for maintenance results in establishment of a number of service stations throughout the East.

As size of delivery vehicles increases, steering becomes difficult; owners ask manufacturers to provide some method of power steering.

Numerous races and endurance tests serve useful purpose of determining weaknesses of various vehicles. One of the most important—a 100-mile endurance contest—sponsored by Long Island Automobile Club. Fifteen vehicles started. One, a Daimler delivery wagon, covered 33½ miles in 3 hrs, 45 min. Chief sources of road failures: ignition and fuel system.

Several railroads purchase gasoline commercial vehicles for L.C.L. hauls and for service where no rail lines exist.

Fluid clutches: Some passenger cars using fluid clutches but doubt is expressed that this type of clutch can ever be a success commercially.

Joseph W. Jones markets a speedometer, actuated by a small friction wheel coming in contact with a flanged ring attached to a wheel, for $15, including gearing.

Tire troubles, especially those caused by overloading, cause speculation as to possibility of using dual wheels.

Sheet-metal bodies appear on the scene.

1902

American Automobile Association organized; performs service with regard to discriminatory legislation that might have hindered growth of industry.

Brown-Lipe Gear Co., Syracuse, N. Y., starts manufacturing patented transmission employing spur gears.

Good roads movement carried into Mid-West and West. Advantages of good roads for business vehicles stressed.

J. M. Quimby & Co., Newark, N. J., builds automobile bodies constructed of aluminum.

The Horseless Age sends a reporter to interview the 39 leading fleet operators in New York City to determine "successful or unsuccessful commercial operation of automoile delivery wagons." Most users found their commercial delivery vehicles generally satisfactory. They do more work than horses, cost more, but serve as a good advertisement on city streets. Consensus: Commercial motor vehicles are still in the experimental stage; they must be adapted to individual needs; operating personnel are a problem and will continue to be for some time until men are properly trained to drive vehicles and make own minor repairs and adjustments en route; users should have own service stations to ensure best quality of maintenance and keep costs down.

Self-locking nuts appear on Waverley electric passenger cars and light deliveries are equipped with electric brakes.

Nickel-iron-carbon alloys are replacing iron and plain steel parts.

A number of factories report daily output of five vehicles per day.

Free literature: To meet growing demand for instructions and information, automobile and parts manufacturers offering handbooks and instruction mauals.

Performance data: A leading New York City department store gives following performance data on its gasoline delivery wagon: During April vehicle traveled 1431 miles, made 1184 stops and consumed 142¼ gal of gasoline. It did the work of six horses and two wagons, at a net saving of $216 per month.

Leaders of the automotive industry show concern over great increase of pedestrian fotalities and serious injuries. Insurance underwriters increase premium rates. Newspapers editorialize against high-speed and careless operation.

Term "garage" seems to be superseding the term "auto stable."

Charles D. Shain, New York City, is marketing an "auto wire terminal" which is said not to become loosened by vibration.

Police speed traps appear in the East.

National Good Roads Convention, sponsored by League of American Wheelmen, is held the week of July 16 to advance the improvement of the extremely backward condition of highways.

Hit-run drivers are on the increase.

Retail price of gasoline in Brooklyn, N. Y., 20 cents a gal.

Excessive use of the automobile horn creates much public criticism.

Brown-Lipe Gear Co. markets two sizes of steering gear; one for light vehicles, the other for heavy-duty vehicles.

Barney Oldfield establishes new record with his Ford-Cooper racer. Time for 1 mile: 1 min, 11/5 seconds; for 5 miles: 5 min, 20 seconds.

Commercial motor vehicle users express interest in a proposal for the manufacture of truck tractors with some detachable trailer combination. Prinoipal advantage for this type of vehicle is said to be a reduction of idle time of power unit while trailer is being loaded and unloaded.

Morgan Truck Co., Worcester, Mass., claims manufacture of largest automobile truck ever built. Capacity: 10 tons.

1903

Association of Licensed Automobile Manufacturers organized to operate under Selden patents.

Some technical improvements: Automotive ignition makes a great stride with "auxiliary spark gap discovery." A number of manufacturers successfully adopt air-cooled engines, pressed steel frames with channel section, and anti-friction bearings.

Frame construction of the day: Tubular steel, angular steel, channel steel, steel flitched wood, plain wood, pressed steel, and square steel tube with wood filling.

Honycomb or cellular radiator exhibited for first time by Whitlock Coil Pipe Co., Hartford, Conn.

Some municipalities require gasoline motor vehicles to be provided with mufflers.

National Good Roads Convention endorses Congressional Bill appropriating $20,000,000 for construction and improvement of roads.

John Wanamaker, R. H. Macy & Co., and other leading department stores open sales rooms for motor vehicles, passenger cars and commercial vehicles.

There is a motor regulation bill in almost every state legislature in the northeast and central states.

Chemical fire extinguisher for motor vehicles placed on market by H. W. Johns-Manville Co., New York City. Extinguishing agent is a chemical compound in a metal tube 22 in. long and 2 in. in diameter, weighing 3 lbs.

New problem arises among motor vehicle operators traveling into neighboring states. Their vehicles are stopped for lack of neighboring state's registration certificates. A movement is on foot for interstate recognition of motor vehicle registration certificates.

Current price of gasoline is 12¼ cents per gallon.

Second-hand motor vehicle dealers spring up over the country. Automotive "experts" open offices in major cities. For nominal fee they give advice as to whether a used car is a good buy or not.

Spitfire spark plug has been reduced to $1.50.

Fleet shop: The U. S. Express Co. establishes a complete automobile service in Columbus, Ohio, for its own vehicles as well as for any other vehicle requiring service.

Ford prices: 1904 runabout, $800; tonneau model, $900.

Annheuser-Busch Brewing Co., St. Louis, Mo., purchases 20 5-ton trucks after successfully trying two last year.

1904

Many novel features introduced this year. A few: The windshield; electric starter, the flywheel type; acetylene gas dissolved in acetone, stored in tanks and used in headlights.

Ford shows a two-passenger runabout with a double-opposed 2-cylinder, 8-hp engine, planetary transmission and retailing for under $800.

Most manufacturers employ a leather-lined cone clutch integral with the fly wheel. The newest is a metal clutch completely enclosed within a change speed case.

Many improvements in engine lubricating systems. Commonly used gravity system being superseded by force-feed lubrication.

The Motor and Accessory Manufacturers' Association organized.

The beginning: Due to an increase of freight charges on automobiles, Boston dealers add freight charges to retail prices.

Speed limits slowly rising, from 6 and 8 to 10 and 12 mph.

How it started: "The boorishness and obstinacy of truck drivers, most of whom are former horse drivers, is proverbial. Every day an instance may be seen in New York City of such drivers blocking the progress of street cars for no other purpose than to spite the motormen. These traits are in part due to their prior association with contrary horses."

Weed anti-skid chains introduced.

It happened here: In Burlington, N. J., one night a horse and wagon collided head-on with a motor vehicle running at high speed. The horse driver explained that he mistook the car, whose two side lamps were lit, for two bicycles and decided to drive between them.

The mechanical branch of American Licensed Automobile Manufacturers (later the S.A.E.) organized.

Boston branch of Fisk Rubber Co. installs equipment for retreading old tires of all makes.

Practice of using dual wheels on driving axle becoming more general for medium-weight delivery wagons.

Dropped-forged front and rear axles being adopted.

The Warner Instrument Co., of Beloit, Wis., introduces combined speed indicator and odometer for dashboard attachment.

Slanguage: Dozens of coined words and expressions bob up in conversation relating to the automobile, to wit: "Benzine buggy," "scoot wagon," "cough cart," "pike yacht," "dog killer," "buzz cart," "devil wagon," "rattle rig."

Serious accidents at railroad grade crossings causes Automobile Club of America to endeavor to get railroads to place watchmen at crossings, or eliminate them by under- or over-passes.

1905

Camshafts are now integral, instead of cams mounted on shafts, in at least a half dozen manufacturers' models. Grinding processes now being employed for finishing cylinders, pistons, crankshafts, and all important bearing surfaces. Many manufacturers are case hardening wearing parts.

Goodyear introduces universal rim to take care of either clincher or demountable rim tires.

A radical departure in motor vehicle design and construction is introduced by Four Wheel Drive Wagon Co. of Milwaukee, Wis. All four wheels are powered.

Recently organized Automobile Chauffeurs Association of Philadelphia sponsors legislation providing that all persons must pass an examination before operator's license is granted.

Motor and Accessories Manufacturers Association organized.

Truck drivers in New York City are being paid $20 per week, horse and wagon drivers, $14 per week.

Babbitt, containing aluminum, is being used widely for engine bearings.

Universal complaint against gasoline motor vehicle, that it is forever dripping ail, solved by many manufacturers with installation of oil drip pans.

Pennsylvania starts the custom of supplying vehicle owners with license tags.

The auto siren is born: the Decauville Automobile Co., New York City, markets a new, powerful signaling device combining a horn with a special fan driven from the flywheel.

Force-feed lubricator introduced.

Automatic storage battery charger introduced by Dayton Electrical Mfg. Co.

At the year's end practically all big "hay-burning" fleets have given motor vehicles a trial. Many have at least one vehicle in their stables. Largest users: Municipalities, express companies, breweries, department stores, wholesale grocers, flour millers, hardware dealers, public utilities, and heavy industrials.

Anheuser-Busch Brewing Co., St. Louis, Mo., claims to have largest motor vehicle fleet in the world—35 vehicles, 30 more on the way.

1906

They start to step on it: In addition to a hand throttle at the steering wheel, some manufacturers are supplying a foot throttle.

Two-ton Pope gasoline truck features a three-speed transmission, each speed controlled by a magnetic clutch.

The Monitor recorder, exhibited by Baldwin Chain & Mfg. Co., makes a permanent record of every stop, start and speeds maintained in a day's run.

A number of pneumatic shock absorbers are introduced. They vary from a piston-in-cylinder combination to a pig skin pad containing a fabric-rubber "bladder" filled with air.

Franklin air-cooled trucks feature multiple disc clutch and compensating carburetor.

The New England Telephone & Telegraph Co. is using a 3-ton gasoline stake truck, equipped with engine-operated winch. It is said to reduce cable-laying manpower by 50 per cent.

Fewer truck manufacturers are making all parts they use. Parts and component unit manufacturers are producing needed parts of equally good or better quality, at better prices, greater production. Examples: Pressed steel frames, drop-forged axles, radiators, ignition devices, universal joints, brakes, etc. Some manufacturers even buying completely assembled gasoline engines.

First armored car: The Giroux Consolidated Mines Co., Los Angeles, Cal., is using a Thomas light truck with an armor plate body for transporting gold.

Engineers are discussing use of a gas turbine as an automotive power unit. Application does not seem impossible. Principle drawback: Inability to find a suitable high temperature metal for turbine blades.

Fleet superintendent is born: After trying for a long time to secure competent truck operators Joseph Horne Co., Pittsburgh, solves problem by placing a competent mechanic, with several assistants, in charge of fleet. Mechanic supervises repair jobs and instructs prospective drivers.

Use of an engine governor, notably fuel throttling, centrifugal type, is suggested for commercial vehicle users as insurance against high-speed driving.

Mechanical branch of A.L.A.M. (now SAE) develops standards for screws and nuts, reduces sizes and types to facilitate maintenance. Rear-view mirror introduced by Mirroscope Co., New York City.

Commercial car prices range from $1400 to $5500 in gvw range 2000 lb to 10,200 lb.

Thermo-siphon engine cooling favored by commercial car users.

Cooling system fan: Several makes of vehicles using belt-driven fans for cooling system.

Several types of hydraulic shock absorbers are in use, and giving good service.

This Knox 2-cyl delivery made a very fine showing in a commercial vehicle performance contest aimed to prove that truck use was profitable

1907

Automobile shows indicate trend is to high power: Fourteen, 6-cylinder engines are exhibited, two optional for trucks.

Northern car has 4-cyl. engine cast "en block" with a detachable cylinder head; air brakes, air clutch control.

Firestone introduces its demountable rim.

Columbia and Purdue Universities establish laboratories to testing engines and engine parts.

Mechanical branch of A.L.A.M. works out spark plug construction standards.

Match-less Light Co., Cleveland, introduces a combination cigar lighter and trouble light. Removal of lighter permits use of an electric light bulb.

Users of gasoline trucks for coal hauling suggest to manufacturers. Extra heavy chassis, side-dumping bodies, short-turning radius.

First motor moving-van service: C. G. Strang, Brooklyn, establishes what is believed to be the first household moving van service with two 3-tonners, and one 5-ton job.

Charles Cotta introduces constant mesh transmission.

The passing of a nuisance: Horses are ignoring motor vehicles.

Wall Street panic: The Wall Street panic has taken its toll. A number of old and well-established names pass out of the automotive picture.

Fleet operators want manufacturers to supply them with interchangeable power plants, as one solution to the maintenance problem.

1908

On its tenth anniversary, the automobile industry gave a good account of itself. There were 175 automobile manufacturers with a capitol investment of $95,000,000 employing 60,000 persons, producing 50,000 vehicles during this year valued at $105,000,000. A number of allied industries, depending entirely on the automobile industry, were capitalized at $37,000,000.

Commercial Car Manufacturers' Association organized.

Probably the most important event of the year, one which best epitomizes the great advancement of the American automobile industry, occurred when the Cadillac agency in London, England, made the interchaneability test. Three Cadillacs were completely dismantled, parts mixed, then reassembled, to give an outstanding performance on the Brooklands racing track. Such accuracy in parts manufacture, rapidly becoming commonplace in America, could not be equalled in any other country.

Noteworthy improvements: Carburetor and manifold design reached new heights; one piece manifold introduced, body design and construction consider vocational needs; control levers and foot pedals improved; fewer gadgets mounted on dash; body frames, especially for heavy-duty trucks, trussed for greater rigidity.

Electric dynamometer developed.

New Poducts: Auto creeper, blow-out patches, gasoline gages, spare wheels.

Tread designs appear on tires.

Self-sealing inner tube introduced.

Enter Traffic Engineering: Traffic congestion became a problem in major cities. Need for regulation develops practices still in use. Some New York City regulations adopted generally: The traffic cop appeared at busy intersections, directing traffic with whistle signals, slow wagon and truck traffic was moved to right-hand lanes, fast traffic in left-hand lanes; limited-time, parallel-to-curb parking and one-way streets established; displacement regulation limited load overhangs; standard code of hand direction signals established.

Enter the V-engine: A Marmon sports 4-cylinder job.

Use of V-belts and pulleys, now used on motorcycles, is suggested as an answer to slipping of flat radiator fan belts.

Two-piece windshield introduced by Twentieth Century Motor Car Co., South Bend, Ind.

International Motor Car Co., df Philadelphia, builds a front-drive motor truck.

Model T Ford: Ford brings out two models; one, the Model T, (20 hp, touring, $850) which, with modifications, was destined to be "best seller" for many years to come.

Autocar enters commercial vehicle field with its type XVIII Autocar: 85-in. wheelbase, speeds from 2 to 25 mph, and 2000-lb pay load. Special feature is a double reduction gear on rear axle.

Ignition distributor: Atwater Kent introduces the Unisparker, a simplified form of its spark generator.

Baked enamel body finishes introduced.

(Turn to next page, please)

Truck Milestones in the Horseless Age

Continued from page 73

1909

Trend of truck design and construction, as compiled from a study of the two New York shows, is as follows: 91 per cent of the engines are 4-cycle type; 64 per cent of the engines are of the 4-cyl. vertical type, balance are 2-cyl. engines; 77 per cent of the engines are water-cooled, the balance air-cooled; pump circulation of cooling system leads almost 2 to 1 over the thermo-syphon systems (over 54 per cent of the pumps are of the gear type, the balance of the centrifugal type); 53 per cent of the radiators are of the finned tube type, the balance are honeycombed type; all vehicles are equipped with high tension ignition systems; half the vehicles use a combination of magneto and batteries as a source of ignition current, the balance use one or the other; 47 per cent of the vehicles are equipped with multiple disc clutches, 35 per cent with cone clutches; 36 per cent of the vehicles were progressive sliding transmission systems, 32 per cent use the selective sliding system, balance planetary; most vehicles are equipped with double chain drive; all vehicles have two sets of brakes, with brake and clutch interconnection; most vehicles use semi-elliptic front springs; over 54 per cent are equipped with semi-elliptic rear springs, over 36 per cent with platform rear springs; a number of steering gear systems are used but majority have worm and segment type; almost all vehicles use single solid tires for the front wheels; 50 per cent use single solid on the rear wheels, 41 per cent use twin solid tires on these wheels.

A number of devices and accessories were exhibited at the shows most outstanding of which was a whistlinn type of warning device to indicate when gasolin• storage tanks were filled to capacity. A. R. Mosler & Co. displayed a novel signaling device which was a combination of stop light, slow signal and arrows for signalinn turning direction.

Willard Storage Battery Co. introduces tungsten filament electric lamps, for headlights and taillights.

S.A.E. Incorporates: Mechanical branch of Association of Licensed Automobile Manufacturers outgrows its original function and becomes separate organization known as Society of Automobile Engineers.

Timken Roller Bearing Axle Co., manufacturer of roller bearings and axles separates into Timken Detroit Axle Co., and Timken Roller Bearing Co.

Several tire companies introduce tires with designs molded on the traction tread. One of these, manufactured by Empire Tire Co., Trenton, N. J., has what is called "checkered tread," which is said to give non-skidding qualities.

The use of pneumatic tires on trucks, heretofore considered impractical, is growing. Use on vehicles up to 1½ tons noted.

1910

Year marks beginning of two major trends: Automobile bodies streamlined from cowl to back; another, sale of vehicles "fully equipped," with horn, lights, windshield, etc.

Reo enters truck field with ¼-ton delivery and a 1500-lb Speed Wagon.

White introduces its first gasoline-powered vehicle.

Ford moves "mammoth factory" to Highland Park.

Ross steering gear introduced.

Ruby crystal glass light reflectors marketed.

Rubber prices soar: Price of crude hits $3 per lb., drops to $1.35; price last year, $1.28.

Wheels stay put: Firestone develops "safety locking ring" on its demountable rims.

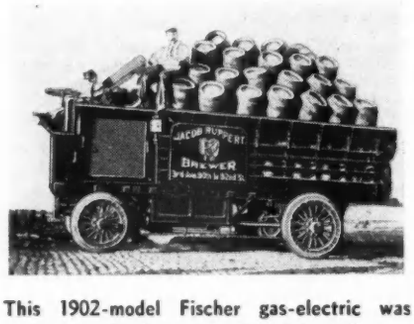
Factory Maintenance Contract: Rapid Motor Vehicle Co., Pontiac, Mich., establishes national chain of authorized maintenance garages. For fees of $20 to $35, a truck is "housed and maintained." Breakdowns traceable to driver cost extra at $1 per hour. Spare trucks supplied for emergency use.

First 100% Truck Fleet: As Gimbel Bros. opens its store in New York City, 88 gasoline-powered trucks are used exclusively for all deliveries.

Truck Prices: Range is from $750 for a 2-cyl, 12-hp. ¼-ton express of 1500-lb gvw and 88-in. wb to $5050 for a 4-cyl, 49-hp, 5-ton truck of 8200 gvw and 126 in. wh.

Twombly Motors Co., New York City, produces a "quick-removable powerplant that can be removed and replaced in 5 minutes," and an all-aluminum body.

Packard markets lumber truck with removable body. Body transfer accomplished by winch operated by hand lever.



This 1902-model Fischer gas-electric was said to be the largest built and in daily service. It is carrying 83 half-barrels, nearly 9 tons

1911

This is one of the most eventful years in automotive industry's remarkable history. Probably most notable event is decision handed down by U. S. Circuit Court of Appeals in New York on Jan. 9, reversing lower U. S. Circuit Court's decision of 1909 (which upheld validity of Selden patent). This decision unshackles automobile and truck builders from burdensome licensing and royalty restrictions. Selden interests plan to go to Supreme Court, but plans and patent, which had only one year to go, quietly pass out of existence.

The next major event: This year, for first time, separate commercial car shows are held in New York and Chicago.

Prices range from $600 to $8500.

In parts and accessory section, greatest attractions are electric lighting systems and electric horns.

CCJ Born: Shortly after the shows, COMMERCIAL CAR JOURNAL came into being. First issue published March 15. As to its aims and objectives, publishers put "matters of interest to owners and drivers" at top of list. As to coverage, publishers said, "COMMERCIAL CAR JOURNAL will be mailed to every truck owner in the United States." The publishers, Chilton Company, were well qualified to serve interests of truck owners as through the *Cycle and Auto Trade Journal*, established in latter part of 19th century, they followed the growth of commercial vehicles with close interest and encouragement.

General Electric introduces Mazda auto lamps in three models, and conversion units for oil lamps.

Holley offers dual-jet carburetor.

A 7-ton Mack dump truck with a snow plow attachment makes news as it cleans up New York City streets after a record snowfall.

Individual tire chains introduced by Snap-On Tire Chain Co., Baltimore.

Dismissal of the Selden patent suit results in dissolution of Association of Licensed Automobile Manufacturers which handled royalties and licensing of automobile manufacturers (about 85% of all in business). Same group reorganizes as Automobile Board of Trade.

Bridgeport Valve Lifter, with a hardened steel roller, introduced.

SAE urges manufacture of oversize pistons and rings to permit efficient engine overhauls and rebuilds.

Briggs introduces Model A magneto with centrifugal spark control.

Portable Telephones: At intervals of a few miles on highways emanating from Los Angeles and Detroit, telephone companies install plug-in telephone boxes for motor vehicle users. Subscribers carry small plug-in 'phones. Los Angeles area, alone, has over 400 highway stations.

New Pierce-Arrow 5-ton truck features worm drive, 40-hp engine with T-cylinders and ball governor and 6-blade V-belt fan drive; oil gage on dash; two independent systems of ignition; transmission and rear-wheel brakes with Raybestos-faced, renewable, cast-iron brake shoes; pressed steel, channel section, chassis frames with four cross members; and many new, smaller refinements. Price $4500.

Charles Kettering perfects electric starter. Cadillac is first car equipped.

The Knight sleeve-valve engine introduced.

Mead Rotary-Valve engine and Reynold's rotating disk valves shown.

U. S. Tire Co. organizes and absorbs four of major tire builders—Hartford, G & J, Morgan & Wright, and Continental Caouchouc.

1912

A year of local automobile shows. Many small-town commercial car buyers get their first chance to look field over.

500 trucks in line at Philadelphia's commercial car parade.

Natural gas-powered truck is operated in Pittsburgh.

National Association of Automobile Manufacturers adopts standards on truck guarantee and SAE's wheel tolerances.

Pierce-Arrow 5-ton worm drive truck makes epochal run from Buffalo to Connecticut in Army maneuvers.

U. S. Government sets standards for trucks in government service.

Boyce Motometer makes its appearance on radiator caps of cars and trucks.

Sales Policy Year: Dealer associations are getting together to curb unfair sales tactics. Some of them: Excessively high trade-in allowances, "extended" demonstrations, special discounts, etc.

Enter the "Caution Plate": To discourage flagrant overloading and overspeeding of their vehicles, Commercial Vehicle Committee of N.A.A.M. adopts use of 3x9-in. brass plate reading: "Caution: Overloading or Overspeeding Will Void Your Warranty." Below this wording there are spaces setting warranty limits.

1913

Business of merchandising trucks gets under way. Sales organizations and trade associations grow. Automobile Board of Trade (old A.L.A.M.) merges with National Association of Automobile Manufacturers as National Automobile Chamber of Commerce.

New York's truck show reaches new heights: 67 exhibitors, 226 vehicles in Madison Square Garden with overflow at Grand Central Palace.

Show features are mostly refinements. First production enclosed panel body featured by Mercury.

Truck-of-the-Year: Thomas B. Jeffery, Kenosha, Wis., builds a truck to meet U. S. Army specifications: Four-wheel drive, four-wheel steering, four-wheel brakes, 1½-ton, 120-in. wheelbase.

Nation celebrates dedication of 3400-mile Lincoln Highway, which passes through 13 states.

U. S. Court of Appeals upholds rights of Canfield spark plug patent held by A. R. Mosler.

User Survey: Brewing industry is reported to be biggest user of trucks.

Stewart & Clark and Warner Instrument merge as Stewart-Warner Mfg. Co.

Trade Mark: Pierce-Arrow mounts headlights on mud guards.

Trucks get rubber pedal pads.

Statistics: 51,586 commercial motor vehicles made this year by 170 makers. There are 1,258,062 automobiles in America.

1914

A year best remembered in legal circles. Scores of major lawsuits on automotive patent infringements gained national attention.

N.A.C.C. drafts road building code, based on industry's study of needs.

SAE Committees formed to study engine characteristics, gas-electric vehicles, kerosene carburetors, greases, governors, non-electric continuous torque transmission.

Ford sets pace for industry with revolutionary employee benefits: Working hours drop from nine to eight, profit-sharing plan nets minimum of $5 to any man of 22 years of age with more as service increases. Over $10,000,000 is distributed over regular wages.

CCJ begins publication of Truck Specifications. One issue devoted to trucks made by eastern truck manufacturers, succeeding issue to western manufacturers.

Only two truck models have 6-cyl engines: Gramm-Bernstein 7000-lb model at $4500, and Casey 8000-lb model at $3500.

Milwaukee Bill requiring fenders (bumpers to you, son) on trucks defeated. Similar bills in Chicago and Detroit pass.

Pull-More Motor Truck Co., Detroit, introduces front-drive truck.

Gadgets-of-the-Future: Lewis Mfg. Co., Philadelphia, markets gear-shifting device for shifting gears by means of a small lever attached to steering column.

Automatic Direction Signal: Johns-Manville markets direction signal indicator that automatically indicates, by rear lamps, whether driver is stopping, or turning left or right. Operation is controlled by movement of wheels, clutch and brake.

Trailers Not Favored: Of 12 truck manufacturers questioned regarding desirability and economy of using trailers with standard trucks, majority are against practice—except on level, smooth, hard roads, slow speed and proper handling. Under no conditions, they say, should a truck be used to pull a trailer without their consent.

Ford chassis is priced at $410.

War in Europe stimulates truck industry in U. S.

Growing use of trailers recorded by CCJ, despite fact that manufacturers discourage their use.

Tire Trend: To meet demand for larger tires, Goodyear reports that it will concentrate on three most popular sizes: 38x7, 42x9, 48x12.

1915

Production goals are upped this year. Manufacturers have a backlog of orders for domestic and European markets.

Engines in passenger car field get bigger: Eight and twin-six engines are introduced.

As for trucks, most are equipped with 4-cyl engines, there were two 6-cyl jobs, and a few with 2-cyl engines; hp ranges from 10 to 46; 57 per cent of this year's trucks have chain drives, 25 per cent worm drives, 11 per cent bevel gear drives; most transmissions are selective, 86 per cent have three speeds forward, 10 per cent with four speeds forward; 64 per cent have dead rear axles, 26 per cent full-floating; tires for trucks of 1500-lb capacities and under are pneumatic, for 1500 to 3000-lb units pneumatics are optional, for 3000-lb and over solid tires are used.

N.A.C.C. devises cross-licensing agreement among its 93 members. Purpose: interchange of patent rights.

Enter Tractor-Semis: C. H. Martin, Springfield, Mass., invents rocking fifth wheel which permits flexible, positive connection between a tractor and two-wheel trailer. This spurs development of tractor-semi combinations.

Aluminum alloy pistons come into use.

1916

Effects of the European War are felt. Material scarcities are bothering vehicle and parts manufacturers. Shipping is slow and difficult because of congestions and embargoes.

Self-starters now standard equipment on trucks.

N.A.C.C. announces service and parts policy; defines a truck chassis.

A wave of promoters springs up announcing gasoline substitutes.

The first of Ford truck conversion outfits are marketed.

Increasing use of Hotchkiss drive noted on trucks.

Bad Guess-of-the-Year:

N.A.C.C. passes resolution warning that advertising of deferred payment plans is likely to hurt business.

Ford builds River Rouge plant.

1917

General feeling at beginning of year is that this country will be drawn into European War. Automotive industry concentrates on mass production, rather than new developments. Shows feature only few technical changes.

Use of vacuum-feed fuel systems, disk clutches, and pressure lubrication systems is increasing.

During spring, shortage of freight cars becomes serious. Elaborate organizations are formed to conduct drive-away delivery from factories.

Non-skid sander is introduced by The Surface Grip Corp., Baltimore, comprising two boxes of sand and two dischargers, one for each rear wheel. Discharge control is located on steering column.

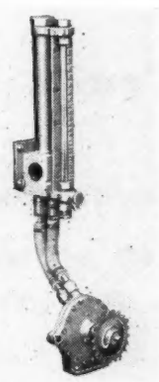
Only three makers show 6-cyl trucks: Stegeman, a complete line of four models, 1½ to 5 tons; Hurlburt and Gerlinger, one model each.

U. S. declares war on Germany. President Wilson's Proclamation makes appeal to railroads, miners, farmers, shipbuilders, manufacturers and others but ignores highway transportation.

War Department asks for bids on 70,000 military trucks in two models—A and B (Liberty engines).

Ford enters truck field with one-ton Model T; 120-in. wheelbase, solid tires.

Two experimental models of Class B (Liberty engine), Standard Military Trucks completed in record time of less than one month—two days ahead of schedule.



This 1903 - model speedometer, a Veeder tachometer, was connected to the engine crankshaft. It comprised a centrifugal pump, glass indicator tube, mileage scale and fluid reservoir

1918

Factories are in high gear on war work. Women are replacing men in factories and repair shops. There are heatless and meatless days; also gasless Sundays. Production of automobiles cut 50 per cent; truck production pushed.

National Automobile Dealers Association founded. First job: Prevent drafting of mechanics out of dealer service departments.

The Automotive Products section of War Industries Board has its hands full in allocating enough parts to keep essential transportation moving. One achievement: Development of pneumatic tire standards.

War hastens recognition of trucks' value in intercity transportation; all sections of country have motor-freight operators pushing out beyond suburban and urban limits.

Post Office Department is adopting trucks for Parcel Post service.

Motor Truck Return Load Bureaus are being organized throughout the country.

Completely enclosed cabs, contributing to driver comfort, begin making appearance in greater number.

Goodyear demonstrates practicability of long hauls by motor trucks with a 5-ton truck train from Akron to Chicago, covering 440 miles in 35½ hours elapsed time; trucks equipped with pneumatic tires.

CCJ Editorial: "There still are some truck makers who do not look with favor upon the use of trailers, but majority do not hesitate to recommend use of trailers; a few truck makers are building them as a side line."

Motor Trucks are classed as War Essential by War Industries Board.

In September, Ford stops manufacturing passenger cars for war's duration.

World War I ends.

82,500 trucks completed for Army; estimated expenditure for motor equipment is $732,000,000.

Air brakes used for first time on Walter trucks and full trailer combinations in Akron to Boston run. Brakes by Parker Air Appliance Co., Cleveland.

1919

Strikes, coal shortage, freight car shortage and other problems of war-to-peace reconversion greet new year.

White Motor Co. decides to confine its production entirely to trucks.

National shows are canceled but Chicago stages its own.

Nine truck models, listed in CCJ Specifications, have 6-cyl engines: Five Continentals and one Buda.

Price range of current model trucks: $550, for Ford one-ton chassis, to $6000 for a 7-ton Old Reliable.

New heavy-duty truck announcements begin mentioning pneumatic tires as standard.

Train of motor trucks makes 3500-mile "Development Tour" of Mid-Western states to demonstrate to farmers what trucks can do for them; 19 farm truck models are in the caravan.

"Ship by Truck" Bureaus, sponsored by Firestone, now operating in 62 cities.

Army Engineers' truck convoy makes first transcontinental trip—Washington, D. C., to San Francisco—covering 3425 miles in 56 days of actual running.

1920

Only 29 models listed in CCJ Specifications Table have pneumatic tires as standard; only five above 2½ tons.

Price of 4000-lb capacity pneumatic tire (40x8) ranges from $178.95 to $240.

All-metal, fully-enclosed truck cabs make their appearance.

The popular propaganda word of the period is "profiteer."

Packard brings out heavy-duty models, specially designed for pneumatic tires; engine speed boosted from 1000 to 1800 rpm and road speed from 12 mph to 24.

Price of gasoline 35 cents a gallon; shortage feared; resolution before U. S. House of Representatives urges investigation by Federal Trade Commission.

Automatic coupling and uncoupling makes appearance on semi-trailers.

Standardization under aegis of S.A.E. begins to make headway.

Constant-mesh transmission appears.

Schacht displays 10-speed transmission on its 5-ton truck.

Railroad switchmen's strike helps entrench trucks in both long- and short-haul freight operations.

Freight embargoes spur drive-away deliveries.

1921

Post-war sellers' market ends; buyers sharpen pencils; truck prices fold.

Redesign of engines and transmissions under way to increase speed of trucks on improved highways.

Rex truck shipped knocked down to dealers to save freight cost of $150 per truck, says the maker; two mechanics can assemble it in 4 hours with two wrenches, a hammer and screw driver.

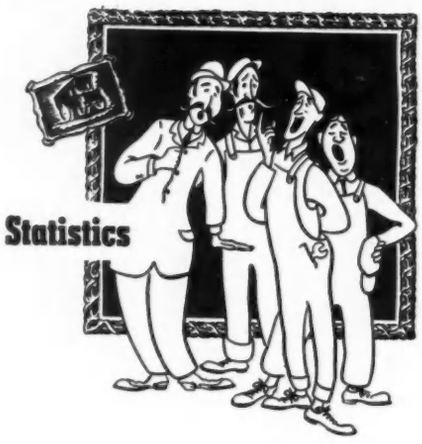
Gasoline drops 7 cents in one year; from 28.2 to 21.2 cents per gal.

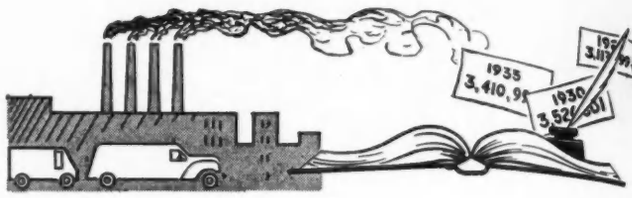
Most 1921 model trucks bow to progress and have pneumatic tires standard.

Nostalgic note: A prominent fleet operator is quoted thus: "The driver in my employ who is caught over-

(Turn to page 293, please)

GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK





STATISTICALLY SPEAKING

50 Years of the Truck Industry

In half a century: more than 19,000,000 trucks

1,000,000 trailers, over $9 billion in taxes

Truck Factory Sales from U. S. Plants, 1904-1948

(Number of Units and Their Wholesale Value)

Year	Number of Units	Wholesale Value	Average Wholesale Price
1904	700	$1,272,747	$1818
1905	750	1,330,000	1773
1906	800	1,440,000	1800
1907	1,000	1,780,000	1780
1908	1,500	2,550,000	1700
1909	3,297	5,333,683	1617
1910	6,000	9,660,000	1610
1911	10,681	21,000,000	1966
1912	22,000	43,000,000	1954
1913	23,500	44,000,000	1872
1914	24,900	44,219,096	1775
1915	74,000	125,800,000	1700
1916	92,130	161,000,000	1747
1917	128,157	220,982,868	1724
1918	227,250	434,168,992	1910
1919	224,731	371,422,820	1652
1920	321,789	423,249,410	1315
1921	148,052	166,070,810	1122
1922	269,991	226,049,658	837
1923	409,295	308,537,929	754
1924	416,659	318,580,580	765
1925	530,659	458,400,277	864
1926	316,947	452,123,435	875
1927	464,793	420,130,624	904
1928	543,342	437,132,258	804
1929	771,020	566,029,644	734
1930	571,241	389,438,690	682
1931	416,648	262,417,542	630
1932	235,187	136,193,336	579
1933	348,545	186,089,314	537
1934	575,192	320,143,667	556
1935	694,690	379,407,751	546
1936	784,587	462,820,474	590
1937	893,085	534,494,873	598
1938	488,100	334,147,530	685
1939	710,496	494,829,231	696
1940	754,901	567,820,414	752
1941	1,060,820	1,069,799,855	1008
1942	818,662	1,427,456,801	1744
1943	699,689	1,451,794,475	2076
1944	737,524	1,700,928,939	2306
1945	655,683	1,181,955,532	1803
1946	940,851	1,043,247,276	1109
1947	1,239,642	1,708,622,000	1378
1948 (Est.)	1,400,000	2,122,400,000	1516
Total	19,057,486	$21,039,250,331	....

Note—Wholesale values are for standard equipment only. Federal excise taxes are not included with above data.

SINCE the introduction of "The first commercial gasoline delivery wagon manufactured in the United States"—as announced in the October, 1898, issue of the pioneer automotive publication, *Horseless Age*, production has risen in 50 years to an all-time high of an estimated 1,400,000 trucks for 1948.

From that one manufacturer producing a handful of commercial vehicles in 1898 the industry grew in 20 years' time to 214 manufacturers of commercial gasoline automobiles in 1918 producing 227,250 vehicles with a wholesale value of $434,169,000. By 1938 the number of manufacturers had decreased to approximately 100 but building nearly twice as many vehicles, 543,342, having a wholesale value of $437,132,000. Today, according to the records of the Chilton Automotive Buyer's Guide there are 42 manufacturers of commercial gasoline and diesel-fueled trucks, but during 1948 these 42 producers will assemble approximately 1,400,000 vehicles with a wholesale value of about $2 billion.

Over 19,000,000 Trucks

WHILE statistical records are not available for the first few years of production of the truck manufacturing industry, they are considered as complete from the year 1904 to date and in that time over 19 million trucks have been manufactured with a total wholesale value of $21 billion. By the latter part of 1920, or a period of 17 years, commercial vehicle manufacturers had produced their first million vehicles. The second million vehicles were produced in slightly over three years, and a total of 27 years were consumed in manufacturing the first five million trucks, this realization taking place in 1930. During 1941 over one million trucks were produced in that one year alone and production from

Truck Registrations 1904-1948

(With the Yearly Percentage of Increase or Decrease.)

Year	Registrations	Per Cent Change
1904	410	....
1905	600	+46
1906	1,100	+83
1907	1,700	+55
1908	3,100	+82
1909	6,050	+95
1910	10,000	+65
1911	20,000	+100
1912	41,400	+107
1913	63,800	+54
1914	85,600	+34
1915	136,000	+59
1916	215,000	+58
1917	326,000	+52
1918	525,000	+61
1919	794,372	+51
1920	1,006,082	+27
1921	1,118,520	+11
1922	1,375,725	+23
1923	1,612,569	+17
1924	2,134,724	+32
1925	2,440,854	+14
1926	2,764,222	+13
1927	2,924,019	+ 6
1928	3,113,999	+ 6
1929	3,379,854	+ 9
1930	3,526,581	+ 4
1931*	3,502,551	−0.7
1932*	3,270,223	− 7
1933*	3,226,200	− 1
1934*	3,284,318	+ 2
1935*	3,410,997	+ 4
1936*	3,983,540	+17
1937*	4,227,244	+ 6
1938*	4,210,022	−0.4
1939*	4,419,893	+ 5
1940*	4,604,772	+ 4
1941*	4,859,653	+ 6
1942*	4,644,210	− 4
1943*	4,549,882	− 2
1944*	4,518,157	−0.7
1945*	4,906,578	+ 9
1946*	5,749,643	+17
1947*	6,583,314	+14
1948* (Est.)	7,250,000	+10

*Count of Commercial Car Journal. All others Public Roads Administration. Buses have been eliminated from the above wherever possible.

Special Truck Taxes

(In Thousands of Dollars)

	State Registration Fees	State Motor Carrier and Trailer Fees	State Gasoline Tax	Special City and County Taxes	Bridge, Tunnel, Ferry, Road Tolls	Total Special Road Taxes	Federal Excise Taxes	Total Special Taxes
1929	$72,823	$1,607	$93,308	$1,477	$13,600	$182,815	.....	$182,815
1930	78,789	1,955	98,691	1,659	14,300	195,394	.....	195,394
1931	76,616	2,758	103,391	1,849	15,000	199,614	.....	199,614
1932	74,046	8,577	97,596	2,102	13,800	196,121	$18,732	214,853
1933	68,659	11,683	103,076	2,103	13,800	199,321	50,263	249,584
1934	78,988	12,195	116,827	2,290	14,700	225,000	49,986	274,986
1935	84,186	15,524	135,014	2,775	15,600	253,099	56,609	309,708
1936	95,047	19,233	156,118	3,128	16,800	290,326	67,182	357,508
1937	104,790	21,791	180,095	3,366	17,900	327,942	74,619	402,561
1938	101,885	22,088	184,932	3,788	18,100	330,793	66,096	396,889
1939	107,968	24,582	205,009	4,292	21,000	362,851	78,394	441,245
1940	111,891	26,504	223,581	4,756	24,000	390,732	101,953	492,685
1941	124,815	31,450	241,714	5,409	26,500	429,888	142,878	572,766
1942	117,849	32,799	216,298	5,584	21,700	394,230	161,752	555,982
1943	116,136	34,422	206,672	4,983	17,500	379,713	138,325	518,038
1944	118,358	36,427	219,890	4,695	18,000	397,370	163,213	560,583
1945	129,326	39,884	242,966	5,024	21,000	438,200	186,501	624,701
1946	160,911	48,347	284,003	6,422	28,300	527,983	242,285	770,268
1947	197,601	57,049	336,000	7,273	31,000	629,123	305,000	934,123
1948	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	980,000
	$2,026,684	$448,875	$3,445,181	$72,975	$362,600	$6,350,515	$1,903,788	$9,234,303

Source: Automobile Facts and Figures—1948 Edition. N.A.—Not Available.

Truck and Truck-Tractor Registrations By Vocational Groups*

	Number	Per Cent of Total
Property Carrier Group:		
Private (other than for hire)		
Governmental Agencies	355,975	4.91
Agriculture	2,510,675	34.63
Extractive Industries	143,550	1.98
Construction Industries	663,375	9.15
Manufacturing Industries	289,275	3.99
Wholesale Distribution	557,525	7.69
Consumer Distribution	1,030,950	14.22
Other Public Utilities	134,850	1.86
Business, Professional and Personal Services	197,925	2.73
Institutional Agencies	31,175	.43
Personal Transportation	232,000	3.20
Tank Trucks (All Private Uses)	139,200	1.92
Not elsewhere classified	2,900	.04
Total Private	6,289,375	86.75
For-Hire: Intercity Common Carriers	231,275	3.19
Local Common Carriers	179,800	2.48
All Contract Carriers	527,800	7.28
Tank Trucks (All For-Hire Uses)	21,750	.30
Total For-Hire	960,625	13.25
Total—Property Carrier Group	7,250,000	100.00

*Estimated as of the end of 1948.

by MARCUS AINSWORTH
CCJ Statistician

U. S. plants are certain to exceed 1,000,000 in both the years 1947 and 1948.

It is significant to note that commercial vehicles have been rapidly increasing their share of the production of all motor vehicles. In 1904 truck production was only 3 per cent of total production. This rose to over 4 per cent in 1914, 12 per cent in 1924, 21 per cent in 1934, practically 100 per cent in 1944 and 26 per cent in 1948. Naturally the 1944 data will have to be discounted as vehicle production was confined to trucks only during the war years of 1942, 1943 and 1944.

7,250,000 Now Registered

THE continued high rate of production during the past 10 years has resulted in ever-increasing registrations of trucks, which will reach the record-breaking level of about 7,250,000 by the end of 1948. While there was a slight decline in registrations during the years 1942, 1943 and 1944, these declines were largely due to trucks being removed from service on account of the Office of Defense Transportation war restrictions on the use of commercial vehicles. As scrappage was practically nil during those years, the great majority of the trucks taken out of service in 1942, 1943 and 1944 resumed operation again during the latter part of 1945 and 1946.

The earliest known registrations were for the year 1904 when 410 trucks were reported to be in use. All but seven of the 45 years elapsing since that time have recorded substantial gains. Of the seven years recording declines none was of any importance other than possibly 1932 when registrations showed a 7 per cent drop from those of 1931. The other years vary in declines from 0.4 per cent to 4 per cent.

450,000 Trailers in Use

From all available sources we have gathered data to reach an "informed guess" as to the number of commercial trailers produced and the number now in use. The figures are complicated by the fact that no records were kept prior to 1923, and between 1923 and 1933 production was recorded only for the odd years and included passenger-car types. Filling in the gap with the help of the Truck-Trailer Manufacturers Association, and cross-checking the results with manufacturers themselves, the most reasonable estimate places total commercial production at just over 1,097,000 trailers.

(TURN TO PAGE 244, PLEASE)

HOW

P. D. McLean

SOMETIMES that which seems fairly new is actually pretty old. And sometimes that which seems quite old is instead relatively new. It's that way in the field of highway transportation, too, as a little research into the subject of "first's"—or apparent first's—shows.

Route Naming and Marking

MARKING of highways reaches back into antiquity. Just as the Romans were noted as road builders, so they receive credit too as markers of roads. As early as 250 B.C. mileage markers were used on the Appian Way, and they had come into general use on Roman roads by about 14 A.D.

In America, milestones were used as early as 1745 on the New York to Philadelphia road. Benjamin Franklin was one of those who helped to raise funds for these markers. Later, early in the next century, the epidemic of toll roads also resulted in some road marking.

But it was early in the 20th century before roads became numbered on state maps, and it was about the same time that automobile clubs became active in putting directional signs out for motorists. This was much better than no signs, but there was widespread confusion owing to a wide range in color, size and shape of signs.

Wisconsin in 1918 was a pioneer in uniform state signs and route markings. The work of posting the signs took less than one week in the field, and the system "worked as if by magic" in aiding motorists, it was found. (Wisconsin may also have been first to put metal markers in general use.)

It was perhaps Wisconsin's example that prompted other states to recognize the necessity of national standardization of route numbering and marking. At any rate, the American Association of State Highways Officials in 1924 adopted a resolution requesting the Secretary of Agriculture (under whom the Bureau of Public Roads then functioned) to seek Federal-state cooperation in road marking. A resulting report by the Secretary was adopted by AASHO the following year, and within two months had been adopted by 41 states. By Nov. 1, 1926, uniform road markings were in effect in 22 states.

Periodic Vehicle Inspection

VEHICLES were inspected in New York, Massachusetts and Maryland as early as 1927 as part of their "Save - a - Life" campaigns against traffic accidents. Two of these three states, Maryland and Massachusetts, were joined by Pennsylvania in 1929 in passing the first laws for statewide, periodic inspection of motor vehicles. In 1934 these inspections became part of the Uniform Vehicle Code proposed to the states as a model traffic code.

State Regulation of Motor Carriers

COMMON and contract carrier motor vehicles engaged in intrastate commerce are generally subject to regulations. All states, except Delaware, now have motor carrier laws which provide for the holding of hearings, the issuing or refusal of Certificates of Convenience and Necessity, for common carriers, and permits for contract carriers, and for full financial responsibility. Most of the states regulate rates as well as services.

Pennsylvania enacted the first state law in 1910. This was quite limited in scope and was amended in 1914 to provide for Certificates of Convenience and Necessity of motor carriers, within, into, and from municipalities. It regulated fares, rates, schedules, equipment, services, etc., and provided for examination into accounts and records. In the mean-

GOLDEN JUBILEE
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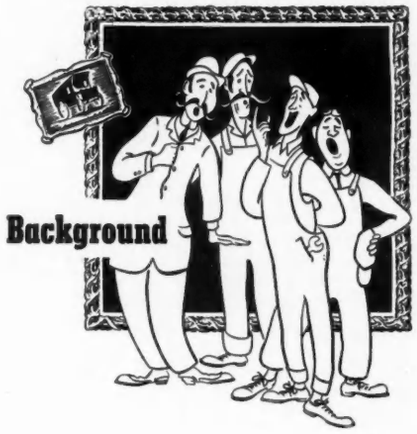


IT STARTED

The origin of route markings . . . vehicle inspections . . . carrier regulations . . . brake and safety glass requirements . . . gas, ton-mile and diesel taxes . . . weight classifications . . . speed limits . . . other legislation

by P. D. McLEAN
Asst. Director, National Highway Users Conference

time, the District of Columbia Public Service Commission was given some general powers over regular route operators within the District in 1913.

Colorado, Wisconsin and New York followed in 1915. The latter was limited to passenger carriers only.

In 1916 the Maryland Public Service Commission was empowered to issue annual permits to motor carriers of passengers and freight. In the following year California granted Certificates of Public Convenience and Necessity to motor carriers over regular routes only, while Utah provided for control of all common carriers of passengers and freight.

During the next twelve years all of the remaining states except Delaware enacted general regulatory laws so that motor carriers for hire were universally regulated by 1929.

Most of the earlier statutes were not only limted in scope but were experimental in their construction. Furthermore, a great many of the Public Service Commissions were limited in budget and frequently confined their activities to issuing of Certificates to regular route operators. Generally speaking, however, state statutes, through amendments and court decisions, gradually fell into a more or less uniform pattern. This was particularly true during 1925 and succeeding years.

Federal Motor Carrier Regulation

THE Motor Carrier Act of 1935, which became Part II of the Interstate Commerce Act, marked the actual start of Federal motor carrier regulation. It provided for full regulations of all motor carriers for hire operating in interstate commerce. But the powers from which this particular legislation sprang go back of course to the Constitution, whose Article 1, Section 8 provides: "The Congress shall have power * * * to regulate commerce with foreign nations, and among the several states . . ." The Interstate Commerce Act itself was adopted Feb. 4, 1887, and applied to common carriers by rail, rail-water, pipeline and wire. It frequently has been amended, broadened and strengthened.

The Center Stripe

THE origin of the familiar center stripe on highways reaches far into the past. Cortez was believed to have used the center stripe on at least one Mexican road in the Sixteenth Century. However, its first modern use has been widely credited to Edward N. Hines, road commissioner for Wayne County (Detroit), Mich., in the early years of this century. Many claims were received by a rubber company which sponsored a contest in 1926 to find the originator, and Hines was credited with this "first" as a result.

Braking on All Wheels

FIRST general regulation requiring all-wheel braking came from the Safety Section of the Interstate Commerce Commission in 1940. This regulation, of course, covers only I.C.C.-regulated vehicles. Four wheel braking for passenger cars was recorded as early as 1915, when Fred Dusenberg used them on a racing car. By the 1930's, four-wheel brakes had become standard equipment for most motor vehicles, before state laws had been introduced to require them. Even today many states lack specific requirements for four-wheel brakes.

Safety Glass Legislation

MICHIGAN pioneered in safety-glass legislation. Its motor vehicle safety-glass law was passed in the 1931 session and became effective July 1, 1932. In this case, too,

(TURN TO NEXT PAGE, PLEASE)

How It Started

(Continued from Page 79)

as with four-wheel brakes, many manufacturers were already installing safety glass as a safety measure.

Oregon Introduces Gas Tax

GASOLINE taxation for the purpose of raising revenue for maintenance and construction of highways was first enacted in Oregon in 1919. At first, this form of highway user taxation was not considered of great importance and its purpose was to supplement highway revenue. But today, gasoline taxation is the principal source of highway revenue. By 1924, 30 states were taxing gasoline and, by 1928, all 48 states had imposed a tax on gasoline of from 2 to 5 cents per gal.

Since that time, the rate of taxation has steadily increased and, today; one state (Louisiana) taxes 9 cents per gal., with very few states 3 cents or below.

Diesel Fuel Taxes

THE first specific diesel fuel tax is of very recent origin. These levies became effective in Michigan July 1, 1947, and in Massachusetts Jan. 1, 1948. However, fuel use tax laws are in effect in 33 states, and generally cover fuels other than gasoline. The first of these use taxes was adopted in Washington State in 1923, and taxed fuel at the rate of 2 cents a gallon. This rate has now grown to 5 cents.

U.S. Taxes Gas in 1932

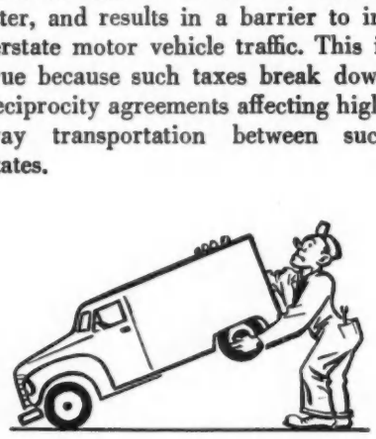
THE Federal Government, in 1932, invaded the field and enacted a 1 cent excise tax on all gasoline used in the United States. In 1933, it was increased to 1½ cents, and in January, 1934, it was reduced to 1 cent, where it remained until 1940. In 1940, it was again increased to 1½ cents, which is the present Federal Tax on gasoline.

Several states, by direct legislative enactment, have authorized municipalities and other political subdivisions to tax gasoline, and in at least one state, Missouri, municipalities tax gasoline without direct authority but by judicial and administrative interpretation of general law. The inconvenience and high cost of collection in most small governmental units has not made the tax profitable enough to overcome its detriments.

Ton-Mile Tax

IN ADDITION to weight classification registration fees, in recent years there has been enacted in several states a ton-mile tax which has been defined as "a motor vehicle levy based upon the product of mileage traveled and tonnage hauled."

The theory of this type of taxation is a combination of the theories of weight classification registration fees and gasoline taxation. The effect has been unnecessary, inequitable, and impracticable double taxation that is difficult to administer, and results in a barrier to interstate motor vehicle traffic. This is true because such taxes break down reciprocity agreements affecting highway transportation between such states.



Registration by Weight

IN 1916, the New York State Legislature directed the Commissioner of Highways, the Superintendent of Public Works, and the State Engineer to draw up a classification of motor vehicles used as trucks and omnibuses for registration purposes based on the "wear and tear of the highways" by such vehicles. This was done, and, in 1927, legislation was enacted that required the registration of trucks and buses on a gvw tonnage basis.

This principle of registration by weight classification is now practiced in all the states, although some still consider horsepower.

Registration Fees

MOTOR vehicle registration fees are the oldest form of direct highway user taxation. New York, in 1901, passed the first motor vehicle registration fee law. This law did not classify motor vehicles in any way but imposed a uniform fee for all registrations. By 1906, all but seven states had enacted some form of state registration. New Jersey and Ohio, in that year, made the first classification by horsepower for motor vehicle registration. This rapidly became a popular method of motor vehicle classification.

Weight Classification

THE various state administrative agencies, in recommending motor vehicle classification to state legislatures, have promulgated several methods of weight classification in an effort to cut to a minimum avoidance of payment of full registration fees and to procure a maximum of revenue from this source. Originally, such fees were assessed on gross weight basis only; later, a good many states assessed such fees on a declared or manufacturer's rated capacity basis. In 1931-1932, 24 states classified trucks and commercial vehicles on a capacity basis. Today the majority use a gross weight basis.

Speed Limitations

LIMITATIONS on the speed of motor vehicles are probably the oldest form of regulation of motor vehicle traffic. Today, it is almost impossible to believe that motor vehicles at one time were limited to 15 m.p.h. on the open road and 2 m.p.h. in urban and congested areas. About 25 years ago, speed limitations on vehicles by classifications were instituted. Most states which have enacted a speed limit have also enacted a lower speed limit for heavier vehicles. In some states, this is done by a weight classification and, in others, by classifying the vehicle according to usage.

Port of Entry Legislation

PORT of entry legislation, while of comparatively recent origin, is one of the greatest barriers to free and efficient use of highway transportation. In 1933, Kansas was the first

(TURN TO PAGE 186, PLEASE)

GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK

Directory of

TRUCK MANUFACTURERS

• PAST AND PRESENT •

Compiled by
F. E. WILLIAMS
Commercial Car Journal

EDITOR'S NOTE: The compilation of this directory of truck manufacturers who have come and gone and who remain, was a task that can be appreciated only by one who has tried something similar. The digging into dust-laden files, the scrutinizing of yellowing records, the reconciling of conflicting data, the corresponding to establish authenticity all are part of a job that takes endless patience and seemingly endless time.

To say that we are satisfied with the job would be untrue. We are simply content that it is the best we could do with the available records. We are hoping that this listing will be warmly received as an historical contribution. We hope particularly that the old-timers of the industry will, in the course of refreshing faded memories, acquaint us with any errors that they detect.

When compilation of the directory was started before the war, it was our hope to list not only the name of each manufacturer and address, but the date of organization, the date of demise and the date the first truck was built. This proved impossible. But it is understandable. Companies gladly give out the news of their birth but seem to conceal news of their death, which sometimes is inglorious. Even some birthdates may be incorrect because the earliest recorded dates could not in all cases be established as the dates of organization. For such uncontrollable errors we hope to be pardoned.

The listing is alphabetical by corporate name, or by name of the truck if it differs from the company name. The date given after the address is the date of organization. All supplementary data are self-explanatory. Companies still in existence as truck producers are starred. If any living company is denied a star it is purely unintentional and a word from the quick will bring a correction.

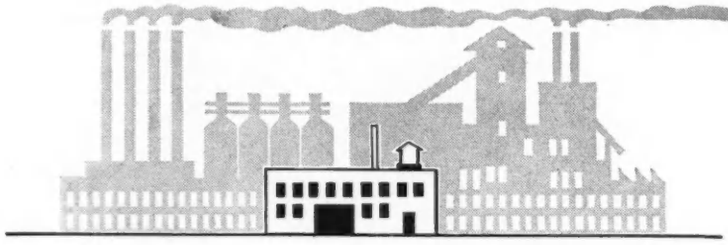
Alphabetical listing is by corporate name or by name of truck if it differs. Date following address is year of organization. Star indicates company still in existence.

A

A.B.C. Motor Vehicle Co., St. Louis, Mo., 1907
(A.C.F.) Brill Co., J. G., Philadelphia, Pa., 1934
A-G Truck Mfg. Co., New York, N. Y., 1907
A-M-C Truck Co., Chicago, Ill., 1919
Abresch-Cramer Auto Truck Co., Milwaukee, Wis., 1910
Acason Co., Detroit, Mich., 1916; later Acason Motor Truck Co.
(Ace) American Motor Truck Co., Newark, Ohio, 1918
(Ace) Apex Motor Corp., Ypsilanti, Mich., 1923
Acme Motor Truck Co., Cadillac, Mich., 1917; formerly Cadillac Auto Truck Co.
Acme Wagon Co., Emigsville, Pa., 1916
Acorn Motor Car Co., Chicago, Ill., 1924
Adams Bros. Co., Findlay, Ohio, 1911; later Adams Truck Foundry & Machine Co.
Admiral Motor Car Co., St. Louis, Mo., 1913
Advance Motor Truck Co., Wilmington, Del., 1918
Aetna Motor Corp., New York, N. Y., 1920
Aetna Motor Truck Co., Detroit, Mich., 1914
Air-O-Flex Automobile Co., Detroit, Mich., 1917
(Akron-Multi-Truck) Thomart Motor Co., Inc., Akron & Kent, Ohio, 1920
Akron Motor Car & Truck Co., Akron, Ohio, 1913; formerly Ideal Commercial Car Co.
(Also) American Locomotive Co., New York, N. Y., and Providence, R. I., 1905
Alden-Simpson Mfg. Co., Pittsfield, Mass., and Detroit, Mich., 1909
Alena Steam Products Co., Indianapolis, Ind., 1921
All American Truck Co., Chicago, Ill., 1918
All Power Truck Co., Detroit, Mich., 1919
Allen & Clark Co., Toledo, Ohio, 1908
(AllFour) United Four-Wheel Drive Truck Corp., Chicago, Ill., 1917
Alliance Mfg. Co., Streator, Ill., 1917
Alliance Motors Corp., New York, N. Y., 1916
Allied Truck & Tractor Co., Minneapolis, Minn., 1920
Amalgamated Motors Corp., Alhambra, Cal., 1917
American & British Mfg. Co., Providence, R. I., 1906
American Automobile Mfg. Co., New Albany, Ind., 1911
American Bus & Truck Co., Springfield, Ohio, 1926; taken over by Kelly-Springfield Motor Truck Co.
American Commercial Car Co., Detroit, Mich., 1918; taken over by Wolverine Motor Truck & Coach Co.
American-Coulthard Co., Peabody, Mass., 1906
American Eagle Motor Car Co., Brooklyn, N. Y., 1912
American Electric Car Co., Saginaw, Mich., 1914; taken over by Puritan Machine Co.
American Electromobile Co., Detroit, Mich., 1907
American Foundry Co., Leipsic, Ohio, 1906; taken over by Kalb-Thompson Motors
American LaFrance & Foamite Corp., Elmira, N. Y., 1911; later American LaFrance Fire Engine Co.
American Machine Co., Newark, Del., 1916
American Motor Truck Co., New York, N. Y., 1916
American Motor Truck Co., Findlay, Ohio, 1905; taken over by Ewing-American Motor Co.
American Motor Truck Co., Detroit, Mich., 1910
American Motor Truck Co., Lockport, N. Y., 1906; merged with Findlay Motor Co.
American Motor Truck Mfg. Co., San Francisco, Cal., 1912
American Motor Truck & Tractor Co., New York, 1920
American Motor Vehicle Co., Lafayette, Ind., 1917; taken over by Lafayette Motor Truck Co.
American Ordnance Co., Bridgeport, Conn., 1902
American Steam Wagon Co., New York, N. Y., 1903
American Carriage & Mfg. Co., Anderson, Ind., 1910
Anderson Electric Car Co., Detroit, Mich., 1911
Andover Motor Vehicle Co., Andover, Mass., 1916
(Apex) Hamilton Motors Co., Grand Haven, Mich., 1917; taken over by Panhard Motors Co.
Arandsee Co., Brooklyn, N. Y., 1920
Arbenz Motor Car Co., Chillicothe, Ohio, 1916
(Argo) Puritan Machine Co., Saginaw, Mich., 1914
Argo Electric Vehicle Co., Saginaw, Mich., 1910; taken over by American Electric Car Co.
Armleder Co., O., Cincinnati, Ohio, 1912
Artana & Son, L., San Jose, Cal., 1913
(Atco) American Truck & Trailer Co., Kankakee, Ill., 1919

(Turn to next page, please)

Directory of TRUCK MANUFACTURERS . . .



Atlantic Electric Vehicle Co., Newark, N. J., 1912
(Atlas) Martin Truck & Body Co., York, Pa., 1912; later Atlas Truck Corp.
Atlas Motor Car Co., Springfield, Mass., 1904
(Atlas) Knox Motor Truck Co., Springfield, Mass., (c. 1905)
Atlas Motor Truck Co., Creston, Iowa, 1918
Atlas Truck Corp., York, Pa., 1921; formerly Martin Truck & Body Co.
Atterbury Motor Car Co., Buffalo, N. Y., 1910
Auburn Motor Chassis Co., Auburn, Ind., 1911; taken over by DeKalb Mfg. Co.
Auglaize Motor Car Co., New Bremen, Ohio, 1912; formerly Case Motor Car Co.
(Austin) American Austin Car Co., Butler, Pa., 1930; later American Bantam Car Co.
Auto & Battery Co., Denver, Colo., 1912
*Autocar Co., The, Ardmore, Pa., 1899; first truck built in 1908; took over Pittsburgh Motor Vehicle Co.
Auto-Car Equipment Co., Buffalo, N. Y., 1904; later Auto-Car Mfg. Co.
Auto Mfg. Co., Fort Wayne, Ind., 1911
Automatic Transportation Co., Chicago, Ill., 1912
Automobile Maintenance & Mfg. Co., Chicago, Ill., 1910; taken over by Walker Vehicle Co.
Automotor Co., Columbus, Ohio, 1911
Auto-Tri Mfg. Co., Buffalo, N. Y., 1909
Auto-Truck Co., Bangor, Pa., 1915
*Available Truck Co., Chicago, Ill., 1910
Avery Co., Peoria, Ill., 1910

B

(B.E.L.) Consolidated Motor Car Co., New London, Conn., 1922
B.O.E. Motor Conveyance, Milwaukee, Wis., 1912
Babcock Equipment Corp., H. H., Watertown, N. Y., 1911
Bailey Motor Car Co., Detroit, Mich., 1910
Baker Co., R. & L., Cleveland, Ohio, 1916
Baker-Bell Motors Co., Philadelphia, Pa., 1912
Baker Motor Vehicle Co., Cleveland, Ohio, 1905
Baker Steam Motor Car & Mfg. Co., Pueblo, Colo., 1922
Banta Motor Truck Co., Detroit, Mich., 1911
Barber Asphalt Co., Philadelphia, Pa., 1906
Barger Truck Co., Indianapolis, Ind., 1918
Barker, C. L., Norwalk, Conn., 1912
Barker Motor Truck Co., Los Angeles, Cal., 1915
Barron, Jas. J., New York, N. Y., 1918
Bartholomew Co., Peoria, Ill., 1911
Bauer Machine Works Co., Kansas City, Mo., 1915
Beardsley Electric Co., Los Angeles, Cal., 1914
Beaver Mfg. Co., Milwaukee, Wis., 1911
Beck & Son, Cedar Rapids, Iowa, 1913; formerly Cedar Rapids Automobile Works; later Beck Motor Truck Co., then Beck-Hawkeye Truck Works
(Bell) Iowa Motor Truck Co., Ottumwa, Iowa, 1916
Bell Motor Car Co., York, Pa., 1916; later Bell Motors Corp.
Belmont Motors Corp., Harrisburg, Pa., 1919
Benz & Co., Manheim, Pa., 1901
Bessemer Motor Truck Co., Grove City, Pa., 1911
Best Mfg. Co., San Leandro, Cal., 1912
Bestever Truck Co., Chicago, Ill., 1917
Bethlehem Motors Corp., Allentown, Pa., 1917; merged with Hahn Motor Truck Co.
Betz Corp., Hammond, Ind., 1920; later Beta Motor Truck Co.
Beyster Detroit Motor Car Co., Detroit, Mich., 1909
Biddle-Murray Mfg. Co., Oak Park, Ill., 1906
*Biederman Motors Corp., Cincinnati, Ohio, 1920
Big Four Truck Co., Sacramento, Cal., 1922; formerly Golden West Motors Co.
Biggam Trailer Corp., Corunna, Mich., 1917
Bill Motors Co., Oakland, Cal., 1933
Bingham Mfg. Co., Cleveland, Ohio, 1911
Binghamton Motor Car Co., Binghamton, N. Y., 1912
Birch Mfg. Co., Chicago, Ill., 1916; later Birch Motors Corp.
Blacker & Co., J. H., Chillicothe, Ohio, 1910; taken over by Ohio National Mfg. Co.
Blair Mfg. Co., Newark, Ohio, 1911
Blaisdell, J. F., Brooklyn, N. Y., 1903
Board Motor Truck Co., Alexandria, Va., 1911
Bobbi Motor Car Corp., San Diego, Cal., 1946
Bois Car & Truck Co., New York, N. Y., 1913
Bollstrom Motors, Inc., St. Louis, Mo., 1920
Boston Commercial Car Co., Boston, Mass., 1910
Bourne Magnetic Truck Co., Philadelphia, Pa., 1916
Bowman Motor Car Co., Inc., Covington, Ky., 1921
Boyd, Jas. & Bro., Inc., Philadelphia, Pa., 1911
Bradfield Motors Co., Chicago, Ill., 1929
Brasie Motor Truck Co., Minneapolis, Minn., 1913; taken over by Packet Motor Truck Co.
Brazier, H. Bartol, Philadelphia, Pa., 1904
Brennen Motor Co., Syracuse, N. Y., 1912
(Bridgeport) Morrissey Motor Car Co., Bridgeport, Conn., 1926; formerly Bridgeport Motor Truck Co.
Bridgeport Motor Truck Co., Bridgeport, Conn., 1920; later Morrissey Motor Car Co.
Brinton Motor Truck Co., Philadelphia, Pa., 1916
Briscoe Motor Co., Tarrytown, Pa., 1907
Briscoe Motor Corp., Jackson, Mich., 1914; later Earl Motors Corp.
Bristol Engineering Corp., Bristol, Conn., 1909
*Brockway Motor Co., Cortland, N. Y., formerly Brockway Motor Truck Co., 1912; then Brockway Motor Truck Corp., 1932. Successor to W. N. Brockway Co., 1875.
Brodesser Motor Truck Co., Milwaukee, Wis., 1909; later Juno Motor Truck Co.
Bronx Electric Vehicle Co., New York, N. Y., 1911
Brooks-Latta Automobile Mfg. Co., St. Louis, Mo., 1912
Brooks Mfg. Co., Saginaw, Mich., 1912
Brown Commercial Car Co., Peru, Ind., 1912; later Brown Motor Truck Co.
Brown-Sautter Motor Truck Co., Newark, N. J., 1910
Brush Runabout Co., Detroit, Mich., 1907
Buck Motor Truck Co., Bellevue, Ohio, 1925
Buckeye Wagon & Motor Car Co., Dayton, Ohio, 1910
Bucklen Motor Truck Co., H. E. Jr., Elkhart, Ind., 1912
Buffalo Auto-Truck & Motor Co., Buffalo, N. Y., 1907
Buffalo Electric Vehicle Co., Buffalo, N. Y., 1912
Buffalo Truck & Tractor Co., Buffalo, N. Y., 1927
Buick Motor Co., Flint, Mich., 1904
Burford Co., H. G., Fremont, Ohio, 1915; later Burford Motor Truck Co.
Burlington Motor Truck Co., Burlington, Wis., 1917
Burrows Cyclecar Co., Ripley, N. Y., 1914
Bushnell Press Co., G. H., Thompsonville, Conn., 1912
Byron Motor Car Co., Pueblo, Colo., 1912

C

(C.M.C.) Colonial Motors Corp., Boston, Mass., 1920
(C.T.) Commercial Truck Co., Philadelphia, Pa., 1907
Cadillac Auto Truck Co., Cadillac, Mich., 1915; later Acme Motor Truck Co.
Cadillac Motor Car Co., Detroit, Mich., 1907
Cady Co., C. N., Canastota, N. Y., 1912
Caley & Nash, Canastota, N. Y., 1912
Cameron Car Co., Beverly, Mass., 1906
Cannon Motor Co., Des Moines, Iowa, 1912
Canton Buggy Co., Canton, Ohio, 1912
Canton Electric Tractor Co., Newark, N. J., 1906
Cantono Electric Tractor Co., New York, N. Y., 1906
Capital Motors Corp., Fall River, Mass., 1917
Capitol Truck Co., Indianapolis, Ind., 1917
Capitol Truck Mfg. Co., Denver, Colo., 1913
Caravan Motors Co., Portland, Ore., 1920
Carhartt Auto Corp., Detroit, Mich., 1911
Carl Electric Vehicle Co., Toledo, Ohio, 1914
Carlson Motor Vehicle Co., Brooklyn, N. Y., 1904
Carroll Motor Car Co., Strasburg, Pa., 1912
(Cartercar) Motor Car Co., Detroit, Mich., 1907
Casaday Mfg. Co., W. L., South Bend, Ind., 1905
Casco Motors, Inc., Sanford, Me., 1922; taken over by Sanford Automotive Corp.
Case Motor Car Co., New Bremen, Ohio, 1910; later Auglaize Motor Car Co.
Case Motor Truck Co., Port Huron, Mich., 1910
Case Plow Works, J. I., Racine, Wis., 1921
Case Motor Truck Co., Port Huron, Mich., 1911; later Independent Motors Co.
Cedar Rapids Automobile Works, Cedar Rapids, Iowa, 1912; later Beck & Son
Century Motor Truck Co., Defiance, Ohio, 1915; formerly Defiance Motor Truck Co.
Champion Motors Co., Inc., Fulton, Ill., 1917,
(Champion) McCrea Motor Truck Co., Cleveland, Ohio, 1906
(Champion) Milwaukee Auto Truck Mfg. Co., Milwaukee, Wis., 1911; formerly Megow Co., F. C.
Champion Motors, Inc., Philadelphia, Pa., 1920; formerly Direct-Drive Motor Co.
Champion Wagon Co., Owego, N. Y., 1907
Chase Motor Truck Co., Syracuse, N. Y., 1906
Chautauqua Motor Co., Dunkirk, N. Y., 1912
Checker Cab Mfg. Co., Kalamazoo, Mich., 1931
*Chevrolet Motor Div., General Motors Corp., Detroit, Mich., 1912. Built first truck in 1918
Chicago Coach & Carriage Co., Chicago, Ill., 1910
Chicago Commercial Auto Mfg. Co., Harvey, Ill., 1905
Chicago Commercial Car Co., Chicago, Ill., 1911
Chicago Electric Motor Car Co., Chicago, Ill., 1912
Chicago Motor Trucks, Inc., Chicago, Ill., 1919; later Robert M. Cutting Co.
Chicago Motor Vehicle Co., Harvey, Ill., 1904
Chicago Motor Wagon Co., Chicago, Ill., 1911
Childs Co., O. J., Utica, N. Y., 1909; later Foamite Childs Corp.
Cincinnati Motors Mfg. Co., Cincinnati, Ohio, 1912
(Cino) Haberer & Co., Cincinnati, Ohio, 1912
Clark & Co., A. C., Chicago, Ill., 1910
Clark Co., F. G., Lansing, Mich., 1911
Clark Delivery Car Corp., Chicago, Ill., 1910
Clark, Edward S., Dorchester, Mass., 1901
Clark Power Wagon Co., Lansing, Mich., 1910
Clarkspeed Truck Co., Pontiac, Mich., 1927; formerly Columbia Motor Truck & Trailer Co.
Classic Motor Car Corp., Chicago, Ill., 1916
Cleburne Motor Car Mfg. Co., Niagara Falls, N. Y., 1911; then Cleburne, Texas
(Cleveland) Paxson, C. D., Cleveland, Ohio, 1903
Cleveland-Galion Motor Truck Co., Cleveland, Ohio, 1912; taken over by Howard Motor Co.
Cleveland Motor Truck Co., Cleveland, Ohio, 1910; taken over by Cleveland-Galion Motor Truck Co.
(Climax) Hinde & Dauch, Sandusky, Ohio, 1906
Climber Motors Corp., Little Rock, Ark., 1920
Clinton Motor Truck Co., Detroit, Mich., 1919
Clinton Motors Corp., Reading, Pa., 1923
Clyde Cars Co., Clyde, Ohio, 1917; later Clydesdale Motor Truck Co.
Clyde Motor Truck Co., Farmington, L. I., N. Y., 1916; taken over by Fulton Motor Truck Co.
Clydesdale Motor Truck Co., Clyde, Ohio, 1918; formerly Clyde Cars Co.
Coates Tri-Car Co., Goshen, N. Y., 1912; later Coates Commercial Car Co.
Coggswell Motor Car Co., Grand Rapids, Mich., 1912
Cohoes Automobile Co., New York, N. Y., 1912
Colby Motor Co., Mason City, Iowa, 1912
Coleman Carriage & Harness Co., Ilion, N. Y., 1911; later Coleman Motor Truck Co.
*Coleman Motors Corp., Littleton, Colo., 1918
Coleridge Commercial Car Co., Detroit, Mich., 1911
Collier Motor Truck Co., Painesville, Ohio, 1916; then Bellevue, Ohio
Collier Truck Co., Sandusky, Ohio, 1917
(Columbia) Electric Vehicle Co., Hartford, Conn., 1902; taken over by Columbia Motor Car Co.
Columbia Motor Car Co., Brooklyn, N. Y., 1904
Columbia Motor Car Co., Hartford, Conn., 1909
Columbia Motor Truck & Trailer Co., Pontiac, Mich., 1915; later Clarkspeed Truck Co.
Columbia Motor Truck & Tractor Co., Pontiac, Mich., 1915
Columbia Vehicle Co., Washington, D. C.
Columbus Motor Truck & Vehicle Co., Columbus, Ohio, 1903
Comet Automobile Co., Decatur, Ill., 1916
(Commer) Vaughn Car Co., Kingston, N. Y., 1913
(Commer) Wood Automobile Mfg. Co., Kingston, N. Y., 1910; taken over by Wyckoff-Church & Partridge
Commer Truck Co., New York, N. Y., 1913
(Commerce) American Machine Mfg. Co., Detroit, Mich., 1905
Commerce Motor Truck Co., Detroit, Mich., 1911; merged with Relay Motors Co.
Commerce Truck Co., Cleveland, Ohio, 1916
Commercial Automobile Co., Chicago, Ill., 1908
Commercial Car Co., Detroit, Mich., 1912
Commercial Car Unit Co., Philadelphia, Pa., 1917
Commercial Motor Co., Jersey City, N. J., 1903
Commercial Motor Car Co., New York, N. Y., 1906
Commercial Motor Truck Construction Co., Newark, N. J., 1911
Commercial Motor Vehicle Co., Detroit, Mich., 1904
Commercial Service Truck Co., Grand Rapids, Mich., 1912
Commercial Truck Co., Cleveland, Ohio, 1915
Commercial Truck & Power Co., Rahway, N. J., 1906
(Concord) Abbott-Downing Co., Concord, N. H., 1916
Connersville Buggy Co., Connersville, Ind., 1915
Conestoga Motor Truck Co., Lancaster, Pa., 1917
Consolidated Motor Co., New York, N. Y., 1904
Consolidated Motors Corp., Lima, Ohio, 1934; formerly Relay Motors Corp.
Continental Car & Equipment Co., Louisville, Ky., 1911
Continental Motor Truck Co., Denver, Colo., 1912
Continental Motor Truck Co., Chicago, Ill., 1915
Continental Truck Mfg. Co., Superior, Wis., 1912
Cook Motors Corp., Kankakee, Ill., 1920
Coppock Motor Car Co., Decatur, Ind., 1907; taken over by Decatur Motor Car Co.
Corbin Motor Car Co., New Britain, Conn., 1903; later Corbin Motor Vehicle Corp.
*Corbitt Co., The, Henderson, N. C., first truck built in 1910. Successor to Corbitt Buggy Co., 1899

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Corliss Motor Truck Co., Corliss, Wis., 1916
Cortland Cart & Carriage Co., Sidney, N. Y., 1916
Cortland Motor Wagon Co., Cortland, N. Y., 1909; then Pittsfield, Mass.
Corwin Mfg. Co., Peabody, Mass., 1905
Couple Gear Electric Truck Co., Grand Rapids, Mich., 1912
Couple Gear Freight Wheel Co., Grand Rapids, Mich., 1905; later Couple Gear Electric Truck Co.
Courier Car Co., Dayton, Ohio, 1911
Covel Mfg. Co., Benton Harbor, Mich., 1916
Convert Motor Vehicle Co., Lockport, N. Y., 1907
Cowan Truck Co., Holyoke, Mass., 1913; merged with Stuebing Truck Co.
Cram & Soverign, Geneva, N. Y., 1912
Crane & Breed Mfg. Co., Cincinnati, Ohio, 1911
Crary Motor Car Co., Detroit, Mich., 1912
Crawford Automobile Co., Hagerstown, Md., 1912
Crescent Motor Truck Co., Middletown, Ohio, 1912; later Crescent Motor Co., Cincinnati, O.
Crescent Motor Truck Co., New York, N. Y., 1917
Crest Mfg. Co., Cambridge, Mass., 1904
Croce Automobile Co., Asbury Park, N. J., 1912; taken over by Sexton Tractor Co.
*Crosley Motors, Inc., Cincinnati, Ohio, 1945
Crow Motor Car Co., Elkhart, Ind., 1912; later Crow-Elkhart Motor Car Co.
Crown Carriage Co., Los Angeles, Cal., 1923
Crown Commercial Car Co., Philadelphia, Pa., 1907
Crown Commercial Car Co., Milwaukee, Wis., 1911
Croxton Motor Co., Washington, Pa., 1912
Cunningham Son & Co., James, Rochester, N. Y., 1916
Cunningham Truck Co., Boston, Mass., 1900
(Curtis) Pittsburg Machine Tool Co., Allegheny, Pa., 1907
Curtis Motor Car Co., Little Rock, Kansas, 1919
Cutting Co., Robert M., Chicago, Ill., 1919; formerly Chicago Motor Trucks, Inc.
Cyclone Starter & Truck Co., Greenville, S. C., 1920; later Cyclone Motors Corp.
Cyco-Lectric Car Co., New York, N. Y., 1914

D

Daimler Mfg. Co., Long Island City, N. Y., 1901
Dain Co., Jos., Ottawa, Ia., 1912; later Dain Mfg. Co. of Iowa
Danielson Engine Works, Chicago, Ill., 1911
Darby Motor Co., St. Louis, Mo., 1910
(Dart) Caward-Dart Co., Kansas City, Mo., 1927
*Dart Truck Co., Kansas City, Mo.; originally Anderson, Ind., 1905
Dauch Mfg. Co., Sandusky, Ohio, 1911
Davis Car Co., Seattle, Wash., 1916
Davis Mfg. Co., Milwaukee, Wis., 1905; taken over by Avery Co.
Day Automobile Co., Kansas City, Mo., 1902
Day-Elder Motors Co., Newark, N. J., 1916; later National Motors Mfg. Co.
Dayton Auto Truck Co., Dayton, Ohio, 1911; taken over by Durable Dayton Truck Co.
Dayton Motors, Monaca, Pa., 1924
Dayton Motor Truck Co., Dayton, Ohio, 1917
Dearborn Motor Truck Co., Chicago, Ill., 1916
Decatur Motor Car Co., Decatur, Ind., 1909; taken over by Grand Rapids Motor Truck Co.
DeDion-Bouton Motorette Co., Brooklyn, N. Y., 1901
Deere-Clark Motor Car Co., Moline, Ill., 1907
Defiance Motor Truck Co., Defiance, Ohio, 1920; later Century Motor Truck Co.
DeKalb Mfg. Co., Auburn, Ind., 1915
DeKalb Wagon Co., DeKalb, Ill., 1914
Delahunty Dyeing Machine Co., Pottstown, Pa., 1913
(Delcar) American Motors, Inc., New York, N. Y., 1947
Delmore Motors Corp., New York, N. Y., 1924
DeMartini Motor Truck Co., San Francisco, Cal., 1916
Denby Motor Truck Co., Detroit, Mich., 1914
Denneen Motor Co., Cleveland, Ohio, 1916; taken over by Grant Motor Car Co.
Denniston Co., E. E., Buffalo, N. Y., 1905
Dependable Truck & Tractor Co., Galesburg, Ill., 1914; then East St. Louis, Ill.
Desborn Motor Car Co., New Rochelle, N. Y., 1901
Descham Motor Syndicate Co., Buffalo, N. Y., 1909
Detroit Auto Vehicle Co., Detroit, Mich., 1906
Detroit Commercial Car Co., Detroit, Mich., 1911; formerly Stuart Commercial Car Co.
Detroit Electric Car Co., Detroit, Mich., 1924
Detroit Motor Co., Detroit, Mich., 1918
Detroit Motor Wagon Co., Detroit, Mich., 1912
(Detroit) Motor Wagon Co. of Detroit, Detroit, Mich., 1911
Detroit Transportation Truck Co., Monroe, Mich., 1920
Devon Engine Co., Philadelphia, Pa., 1916
Diamond Match Co., Barberton, Ohio, 1908
*Diamond T Motor Car Co., Chicago, Ill., 1905; first truck built in 1911
Diehl Motor Truck Works, Philadelphia, Pa., 1918
Differential Steel Car Co., Findlay, Ohio, 1921
Dile Motor Co., Reading, Pa., 1916
Dispatch Motor Car Co., Minneapolis, Minn., 1910
*Divco Corp., Detroit, Mich., 1944; formerly Divco-Detroit Corp., 1927; Continental-Divco Co., 1934; and Divco Twin Truck Corp.
Dixon Motor Truck Co., Altoona, Pa., 1921
D-Olt Motor Truck Co., Inc., Woodhaven, L. I., N. Y., 1922
Doane Motor Truck Co., San Francisco, Cal., 1915
*(Dodge) Chrysler Corp., Dodge Div., Detroit, Mich., 1928; when Dodge Bros. Corp. was acquired. This included Graham Bros. Corp. (the truck manufacturing division). Dodge Bros. started in 1914.
Dominion Motor Truck Co., Detroit, Mich., 1915
Dorge Carriage Co., Flint, Mich., 1912
Dorris Motor Car Co., St. Louis, Mo., 1905; later Dorris Motors, Inc.
Dort Motor Car Co., Flint, Mich., 1915
Double Drive Truck Co., Chicago, Ill., 1917
Douglas Motors Corp., Omaha, Neb., 1917; later Douglas Truck Mfg. Co.
(Douglas) Nebraska Auto & Truck Mfg. Co., Omaha, Neb., 1916; later Douglas Motors Co.
(Dover) Hudson Motor Car Co., Detroit, Mich., 1909; first truck (Dover) built 1929
Dowagiac Motor Car Co., Dowagiac, Mich., 1908
Downing Motor Car Co., Detroit, Mich., 1914
Downe Tractor Co., St. Louis, Mo., 1911
Doyle Automobile Truck Co., Portland, Ore., 1911
Doyle, N. C., Seattle, Wash., 1914
Drake Motors & Tire Mfg. Co., Knoxville, Tenn., 1921
Drummong Motor Co., Omaha, Neb., 1916
Dudley Tool Co., Menominee, Mich., 1909; taken over by Menominee Electric Mfg. Co.
Duer Motor Truck Co., Chicago, Ill., 1924
(Dumptor) Koehring Co., Milwaukee, Wis., 1907
*Duplex Truck Co., Lansing, Mich., 1916; formerly Duplex Power Car Co., 1906
Duquesne Motor Car Co., Pittsburgh, Pa., 1912
Durable Dayton Truck Co., Dayton, Ohio, 1914
Durable Motor Truck Co., Hammond, Ind., 1917
Durant-Dort Carriage Co., Flint, Mich., 1912
Durant Motors Co. of Michigan, Lansing, Mich., 1931
Duryea Auto Co., Saginaw, Mich., 1912
Duryea, Chas. E., Reading, Pa., 1910
Duryea Laboratories, Philadelphia, Pa., 1916
Duryea Power Co., Reading, Pa., 1906
Dusseau Fore & Rear Drive Auto Co., Toledo, Ohio, 1913
Duty Motor Co., Greenville, Ill., 1920

E

Eagle Macomber Motor Car Co., Chicago, Ill., 1915
Eagle Motor Truck Corp., St. Louis, Mo., 1919
Earl Motors Corp., Jackson, Mich., 1914; formerly Briscoe Motor Corp.
East Davenport Machine Shop, Davenport, Iowa, 1912
Eastern Power Truck Co., Providence, R. I., 1912
Easton Machine Co., So. Easton, Mass., 1912; later Morse Motor Car Co.
Eclipse Truck Co., Franklin, Pa., 1911; formerly Franklin Commercial Truck Co.
Economy Car Co., Indianapolis, Inc., 1913
Economy Motor Co., Tiffin, Ohio, 1916
Economy Motor Car Co., Joliet, Ill., 1908
Edison Electric Vehicle Co. of America, Lawrence, Mass., 1913
Edwards Motor Car Co., New York, N. Y., 1912; taken over by Willys Overland Motors Co.
Ehrlich Electric Construction Co., Chicago, Ill., 1920
Eight Wheel Motor Vehicle Co., San Francisco, Cal., 1923
Eisenhuth Horseless Vehicle Co., Middletown, Conn., 1904
Elbert Motor Car Co., Seattle, Wash., 1914
Eldridge Mfg. Co., Boston, Mass., 1916
Electric Products Co., Cleveland, Ohio, 1923
Electric Vehicle Co., Louisville, Ky., 1911; taken over by Kentucky Wagon Mfg. Co.
Electruck Corp., New York, N. Y., 1926; taken over by Commercial Truck Co., Philadelphia
Elgin Sweeper Co., Elgin, Ill., 1928
Elk Motor Truck Co., Charleston, W. Va., 1913
Elmira Commercial Motor Car Co., Elmira, N. Y., 1916
Elite Auto Wagon Co., Woodside, N. Y., 1913
Elkhart Motor Truck Co., Elkhart, Ind., 1930
Elwell-Parker Electric Co., Cleveland, Ohio, 1906
(Elysee) Moller Motor Car Co., Hagerstown, Md., 1904
Empire State Engr. Co., New York, N. Y., 1903
Epperson Commercial Truck Co., St. Louis, Mo., 1912
Erbes, L. C., St. Paul, Minn., 1917
Erie Motors Co., Painsville, Ohio, 1917
Erie Motor Truck Co., Erie, Pa., 1914
(Erner) Motor Truck & Vehicle Co., Columbus, Ohio, 1901
*Esco Motor Co., Pittsburgh, Pa., 1933
Essex Motor Truck Co., Albany, N. Y., 1916; later Rainier Motor Truck Corp.
Etnyre Co., E. D., Oregon, Ill., 1917
Eugol Motor Truck Co., Chicago, Ill., 1921
Eureka Motor Car Co., Allentown, Pa., 1903
Evans Automobile Mfg. Co., Detroit, Mich., 1912; later Evans Motor Car & Parts Mfg. Co.
Evans Truck & Axle Co., Auburn, Ind., 1919
Everett Motor Car Co., Detroit, Mich,. 1912
Ewing-American Motor Co., New York, N. Y., 1911
Ewing Auto Co., Geneva, Ohio, 1909
Ex-Cel Motor Truck Co., Jamesbury, N. Y., 1912

F

F-A-L Auto Co., Chicago, Ill., 1912
F. S. Motors Co., Milwaukee, Wis., 1912
Facto Motor Truck Co., Springfield, Mass., 1921
(Fageol) Hall Scott Motor Car Co., Berkeley, Cal., 1926
Fageol Motors Co., Oakland, Cal., 1916; later Fageol Truck & Coach Co.
Fageol Motors Corp., Cleveland, Ohio, 1922
Fairman Motor Implement Co., Davenport, Iowa, 1915
Falcon Motor Truck Co., Detroit, Mich., 1915
Famous Mfg. Co., East Chicago, Ind., 1904
Famous Trucks, Inc., St. Joseph, Mich., 1917
Fargo Motor Car Co., Chicago, Ill., 1913
Farmers Auto Sales Co., Inc., Columbus, Ind., 1920
Fauber, W. H., New York, N. Y., 1914
Fawick Motor Car Co., Sioux Falls, S. D., 1912
Federal Automobile & Supply Co., Camden, N. J., 1917
Federal-LeMoon Truck Co., Chicago, Ill., 1942; formerly Nelson & LeMoon
*Federal Motor Truck Co., Detroit, Mich., 1910
Fidelity Motor Car Co., Chicago, Ill., 1909
Field Mfg. Co., Owosso, Mich., 1920
Findlay Motor Co., Findlay, Ohio, 1910; later Ewing-American Motor Co.
Finnegan, Chas. A., Buffalo, N. Y., 1913
Fischer Motor Vehicle Co., Hoboken, N. J., 1902
Fishback Motor Co., Waterloo, Iowa, 1912
Fisher Auto Truck Co., Chicago, Ill., 1901
Flanders Motor Car Co., Detroit, Mich., 1912; taken over by Maxwell Motor Co.
Flexible Traction Motor Truck Co., New York, N. Y., 1915
Flint Motor Co., Flint, Mich., 1924
Flexible Co., Loudonville, Ohio, 1934
Foamite-Childs Corp., Utica, N. Y., 1909; formerly O. J. Childs Co.
Foley Bros. Co., St. Paul, Minn., 1913
*Ford Motor Co., Dearborn, Mich., 1903; first truck built in 1917
Forschler Motor Truck Mfg. Co., New Orleans, La., 1914
Fort Wayne Automobile Mfg. Co., Ft. Wayne, Ind., 1910
Fostoria Light Car Co., Fostoria, Ohio, 1915
Fostoria Wagon Works, Fostoria, Ohio, 1913
*Four Wheel Drive Auto Co., Clintonville, Wis., 1910; first truck built in 1912
Franklin Boiler Works, Troy, Ohio, 1912
Franklin Commercial Truck Co., Franklin, Pa., 1910; later Eclipse Truck Co.
Franklin Machine Co., Brooklyn, N. Y., 1912
Franklin Mfg. Co., H. H., Syracuse, N. Y., 1907
(Frayer-Miller) Lear Automobile Co., Columbus, Ohio, 1906
Freeman Motors Co., Omaha, Neb., 1921
Freeman Motor Co., Detroit, Mich., 1928
Frisbee Truck Co., Webersville, Mich., 1921
Fritchie Automobile & Battery Co., Denver, Colo., 1912
Fritchie Motor Truck Co., Kansas City, Mo., 1911
Front Drive Motor Co., North Tonawanda, N. Y., 1911
Front Drive Motor Co., Hoboken, N. J., 1912
(Frontenac) Abendroth & Root Mfg. Co., Newburgh, N. Y., 1906
(Frontmobile) Camden Motors Co., Camden, N. J., 1918
Fuller Buggy Co., Jackson, Mich., 1912
Fuller Power Truck Co., Delphos, Ohio, 1910
Ful-Ton Truck Co., Los Angeles, Cal., 1397
Fulton Motors, Fulton, Ill., 1916
Fulton Motor Car Co., New York, N. Y., 1909
Fulton Motor Truck Co., Farmington, L. I., N. Y., 1916; formerly Clyde Motor Truck Co.
Furnas Office & Bank Furniture Co., Indianapolis, Ind., 1912

G

*GMC Truck & Coach Div., General Motors Corp., Pontiac, Mich., 1943; General Motors Truck Co. formed by consolidation of Rapid Motor Vehicle Co. and Reliance Motor Truck Co. in 1912; General Motors Truck Co. and Yellow Coach Mfg. Co. brought together as Yellow Truck & Coach Mfg. Co. and its subsidiary General Motors Truck & Coach, 1925; General Motors Corp. acquired property and assets of Yellow Truck & Coach Mfg. Co. forming present GMC Truck & Coach Div., 1943.
(G.V.) General Vehicle Co., Long Island City, N. Y., 1907
(G.W.W.) Wilson Truck Mfg. Co., Henderson, Iowa, 1919
Gabriel Carriage & Wagon Co., Cleveland, Ohio, 1912; later Gabriel Motor Truck Co.

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Gaeth Automobile Co., Cleveland, Ohio, 1904; taken over by Sturyvesant Motor Co.
(Gale) Western Tool Works, Galesburg, Ill., 1906
Garford Co., Elyria, Ohio, 1905; taken over by Gramm Motor Truck Co.
Garford Motor Truck Co., Lima, Ohio, 1915; merged with Relay Motors Co.
Garford Corp., Marion, Ind., 1940
Gary Motor Truck Co., Gary, Ind., 1915
(Gasmobile) Automobile Co. of America, New York, N. Y., 1901
Gay Co., S. G., Ottawa, Ill., 1913
Gaylord Motor Car Co., Gaylord, Mich., 1912
Gem Motor Car Co., Grand Rapids, Mich., 1917
General Auto & Mfg. Co., Cleveland, Ohio, 1903
General Electric Car Co., Long Island City, N. Y., 1905
General Industrial Mfg. Co., Indianapolis, Ind., 1912
Geneva Wagon Co., Geneva, N. Y., 1911; later Geneva Automobile Co.
Gerlinger Motor Car Co., Tacoma, Wash., 1915; taken over by Gersix Mfg. Co.
Gersix Mfg. Co., Seattle, Wash., 1917; taken over by Kenworth Motor Truck Co.
Giant Truck Corp., Chicago Heights, Ill., 1919
Gibbs Engr. & Mfg. Co., Glendale, L. I., N. Y., 1904
Gifford-Pettit Mfg. Co., Chicago, Ill., 1907
Gill & Sons, P. H., Brooklyn, N. Y., 1913
Gleason-Bauer Machine Works Co., Kansas City, Mo., 1912; formerly Kansas City Vehicle Co.
Globe Truck Dept., Globe Furniture Co., Northville, Mich., 1916
Globe Motors Co., Cleveland, Ohio, 1922
Globe Motor Truck Co., East St. Louis, Ill., 1917
Glover, George S., Chicago, Ill., 1911
Golden West Motors Co., Sacramento, Cal., 1916; later Big Four Truck Co.
Goldman Auto Co., Chicago, Ill., 1918
Goodwin Car & Mfg. Co., New York, N. Y., 1924
*Gotfredson Truck Corp., Robert, Detroit, Mich., 1923
Gove Motor Car Co., Detroit, Mich., 1922
Grabowsky Power Wagon Co., Detroit, Mich., 1906
Graham Bros., Div. Dodge Bros. Corp., Evansville, Ind., 1917; later Dodge Bros. Corp., Truck Div.
Graham-Doane Truck Co., Oakland, Cal., 1946
Graham-Paige Motors Corp., Detroit, Mich., 1930; formerly Paige-Detroit Motor Car Co.
Gramm-Kincaid Motors, Inc., Lima, Ohio, 1925
Gramm Motor Truck Co., Lima, Ohio, 1911
Grand Rapids Motor Truck Co., Grand Rapids, Mich., 1912; taken over by Michigan Hearse & Automobile Co.
Grant-Ferris Co., Troy, N. Y., 1901
Grant Motor Car Co., Cleveland, Ohio, 1913
Grant Truck Corp., Chicago Heights, Ill., 1919
Grass-Premier Truck Co., Sauk City, Wis., 1933
Gray Motors Corp., Detroit, Mich., 1914
Great Southern Automobile Co., Birmingham, Ala., 1912
Greenville Mfg. Co., Greenville, Ohio, 1926
Grinnell Electric Car Co., Detroit, Mich., 1912
Grout Bros. Automobile Co., Orange, Mass., 1904
Guaranty Motors Co., Cambridge, Mass., 1917
Guilder Engineering Co., Poughkeepsie, N. Y., 1922
Gumprice Motor Truck Co., Chicago, Ill., 1912

H

H & M Motor Truck Co., Inc., Baltimore, Md., 1919
H.L.R. Motors Co., Seattle, Wash., 1920
Hahn Motor Truck Co., Hamburg, Pa., 1913; merged with Selden Motor Truck Co.
*Hahn Motors, Inc., Hamburg, Pa., 1931
Hal-Fur Motor Truck Co., Cleveland, Ohio, 1920
(Hall) Lewis-Hall Iron Works, Detroit, Mich., 1915
Hall Motor Car Co., Waco, Texas, 1914
Hall Safe Co., New York, N. Y., 1901
Halsey, Jas. T., Philadelphia, Pa., 1907
Hambrick Motor Car Co., Washington, Ind., 1906
Harder Auto Truck Co., Chicago, Ill., 1909
Harger Steam Truck Co., New York, N. Y., 1911
Harrisburg Mfg. & Boiler Co., Harrisburg, Pa., 1920
Harrison Co., Robert, Boston, Mass., 1912
Harrown Motors Corp., Wayne, Mich., 1921
Hart-Kraft Motor Co., York, Pa., 1908
Harvey Motor Truck Works, Harvey, Ill., 1911
Harwood & Bartley Mfg. Co., Marion, Ind., 1911; taken over by Indiana Truck Co.
Hascall Motor Truck Co., Painsville, Ohio, 1916
Hatfield Auto Truck Co., Elmira, N. Y., 1910; taken over by Redford, Riley & Morris
Hatfield Motor Vehicle Co., Miamisburg, Ohio, 1908
Hauber Wagon Works, St. Marys, Pa., 1912
Hawkeye Carriage & Auto Co., Cedar Rapids, Iowa, 1911
Hawkeye Mfg. & Repair Co., Sioux City, Iowa, 1916; later Hawkeye Truck Co.
Hawkeye Truck Co., Sioux City, Iowa, 1918; later Sioux Hawkeye Truck Co.
Haywood Wagon Co., Newark, N. Y., 1912
Hebb Motors Co., Lincoln, Neb., 1918; later Patriot Mfg. Co.
Henderson Bros., Cambridge, Mass., 1916
*Hendrickson Motor Truck Co., Lyons, Ill., 1913
(Hercules) McNaughton Co., Jas., New York, N. Y., 1906
Hercules Motor Truck Co., Boston, Mass., 1912
Herreshoff Motor Co., Detroit, Mich., 1911
Hewitt-Ludlow Auto Co., Inc., San Francisco, Cal., 1912; later Ralston Iron Works
Hewitt Motor Co., New York, N. Y., 1905; consolidated with Mack Bros. and Sauer into International Motor Co., 1911
Hexter, P. K., New York, N. Y., 1913
Hicks-Parrett Tractor Co., Chicago Heights, Ill., 1922
Highway Motors Co., Chicago, Ill., 1919; later Highway Truck Co.
Highgrade Motors Co., Harbor Springs, Mich., 1918
Higrade Motors Co., Buffalo, N. Y., 1918
Hinkley Motors Corp., Detroit, Mich., 1917
Hoadley Bros., Gasport, Ind., 1916
Hodgetts Mfg. Co., Wallingford, Conn., 1916
Hoffman Motor Truck Co., Minneapolis, Minn., 1912
Holman Motors Mfg. Co., Littleton, Colo., 1922
Holsman Automobile Co., Chicago, Ill., 1909
Holson Motor Patents Co., Ltd., Grand Rapids, Mich., 1904
Homer Auto Truck Co., Homer, Mich., 1908
Homer Motor Co., Los Angeles, Cal., 1914
Hoover Wagon Co., York, Pa., 1917
(Horner) Detroit Wyandotte Motor Truck Co., Wyandotte, Mich., 1913
Horner Handy Wagon Co., Detroit, Mich., 1912
Hotel & Railroad News Co., Boston, Mass., 1907
Houghton Sulky Co., Marion, Ohio, 1915; later Houghton Motor Car Co.
House Cold Tire Setter Co., St. Louis, Mo., 1920
Howard Automobile Co., Yonkers, N. Y., 1903
Howard Motor Co., Cleveland, Ohio, 1913
Howard Motor Truck Co., Boston, Mass., 1916
Huber Auto Co., Detroit, Mich., 1904
Huffman Bros. Motor Co., Elkhart, Ind., 1919; taken over by Valley Motor Truck Co.
Hug Co., Highland, Ill., 1922; later C. J. Hug Co.
Hunter-Weckler Boat Co., McHenry, Ill., 1909
Hupp Motor Car Co., Detroit, Mich., 1911
Hurlburt Motor Truck Co., New York, N. Y., 1912; taken over by Harrisburg Mfg. & Boiler Co.
Huron River Mfg. Co., Ann Arbor, Mich., 1912
Huron Truck Co., Bad Axe., Mich., 1922
Hydraulic Truck Co., Los Angeles, Cal., 1916

I

Ice Mfg. Co., New York, N. Y., 1912
Ideal Auto Co., Fort Wayne, Ind., 1911
Ideal Commercial Car Co., Detroit, Mich., 1911; later Akron Motor Car & Truck Co.
Ideal Electric Vehicle Co., Chicago, Ill., 1911
Ideal Mfg. Co., Portsmouth, Ohio, 1907
Immel & Sons, John, Columbus, Ohio, 1911
Imperial Electric Motor Co., Philadelphia, Pa., 1912
Independent Harvester Co., Plano, Ill., 1911
Independent Motors Co., Port Huron, Mich., 1914; formerly Cass Motor Truck Co.
Independent Motors Co., Youngstown, Ohio, 1914
Independent Motor Truck Co., Davenport, Iowa, 1917
Indiana Commercial Truck Co., New York, N. Y., 1914
Indiana Truck Co., Marion, Ind., 1916; taken over by White Motor Co.
Industrial Motors Corp., Rochester, N. Y., 1922
Industrial Truck Co., Holyoke, Mass., 1921
Interboro Motor Truck Co., Philadelphia, Pa., 1914
Internal Gear Drive Co., Detroit, Mich., 1913
*International Harvester Co., Chicago, Ill., 1902; first truck built in 1907
International Motor Car Co., Philadelphia, Pa., 1908
International Motor Co., Allentown, Pa., 1911; merger of Mack Bros., Hewitt and Sauer
Interstate Motor Co., Muncie, Ind., 1917
Iroquois Iron Works, Buffalo, N. Y., 1906
Italia Motor Truck Co., San Francisco, Cal., 1922
Ivey Motor Truck Co., Buffalo, N. Y., 1913

J

(J & J) Lorain Motor Truck Co., Lorain, Ohio
J.L.B. Motor Co., Dayton, Ohio, 1916
Jackson Motors Corp., Jackson, Mich., 1919
Jarrett Motor & Finance Co., J. C., Colorado Springs, Colo., 1933
Jarvis Huntington Auto Co., Huntington, W. Va., 1911; later Jarvis Machine & Supply Co.
Jewett Car Co., Newark, Ohio, 1916
Johns Motor Truck Co., Detroit, Mich., 1912
Johnson Service Co., Milwaukee, Wis., 1904
Johnstown Motor Car Co., Johnstown, Pa., 1913
Joliet Auto Truck Co., Joliet, Ill., 1912; later Joliet Auto Tire Co.
Jones Motor Car Co., Wichita, Kan., 1914
Jones Co., S. H., Toledo, Ohio, 1904
Juergens Motor Car Co., Fremont, Ohio, 1911
(Jumbo) Nelson Motor Truck Co., Saginaw, Mich., 1918; later Nelson Bros. Co.
Juno Motor Truck Co., Milwaukee, Wis., 1912; formerly Brodesser Motor Truck Co.

K

(K-Z) King-Zeitler Co., Chicago, Ill., 1919
Kadex-Newark Truck Co., East Orange, N. J., 1912
Kalamazoo Motor Vehicle Co., Kalamazoo, Mich., 1913; taken over by Columbia Motor Truck & Trailer Co.
Kalamazoo Motors Corp., Kalamazoo, Mich., 1919
Kalb-Thompson Motors, Leipsic, Ohio, 1906
Kanawha Auto Truck Co., Charlestown, W. Va., 1912
Kankakee Automobile Co., Kankakee, Ill., 1919
Kansas City Motor Car Co., Kansas City, Mo., 1906
Kansas City Vehicle Co., Kansas City, Mo., 1908; later Gleason-Bauer Machine Works Co.
Karavan Motors Co., Portland, Ore., 1920
Karbach Auto & Vehicle Co., Omaha, Neb., 1906
(Kato) Four Traction Auto Co., Mankato, Minn., 1909
Kearns Motor Car Co., Beavertown, Pa., 1908; later Kearns-Dughie Parts Co., then Kearns Motor Truck Co.
Kelland Motor Car Co., Newark, N. J., 1922
Keller Cycle Car Co., Wilmington, Del., 1914
*Keller Motors Corp., Huntsville, Ala., 1947
Kelley Co., O. S., Springfield, Ohio, 1903; later Kelley Motor Truck Co.
Kelley Convertible Auto Truck Co., Chicago, Ill., 1917; taken over by Goldman Auto Co.
Kelly Motor Truck Co., Springfield, Ohio, 1911
Kelly-Springfield Motor Truck Co., Springfield, Ohio, 1910
Kendle Motor Car Co., Philadelphia, Pa., 1912
Kenen Mfg. Co., Long Beach, Cal., 1913
Kenosha Fire Engine & Truck Co., Kenosha, Wis., 1918; formerly Winther Motor Truck Co.
*Kenworth Motor Truck Corp., Seattle, Wash., 1915
Keystone Motor Car Co., Rochester, Pa., 1912
Keystone Motor Truck Corp., Philadelphia, Pa., 1920; taken over by Penn Motors Corp.
Kidder Motor Vehicle Co., New Haven, Conn., 1901
Killand Motor Car Co., Newark, N. J., 1915; taken over by Walker Vehicle Co.
Kimball Motor Truck Co., Los Angeles, Cal., 1918
King Mfg. Co., A. R., Kingston, N. Y., 1912
Kinnear Mfg. Co., Columbus, Ohio, 1910; taken over by Jas. Boyd & Bros., Inc.
Kissel Motor Car Co., Hartford, Wis., 1906; taken over by Stephens Service Co.
Kleiber & Co., Inc., San Francisco, Cal., 1913; later Kleiber Motor Truck Co.
(Kline) B.C.K. Motor Car Co., York, Pa., 1909; later Kline Motor Car Corp.
Knickerbocker Motor Truck Co., New York, N. Y., 1912
Knox Automobile Co., Springfield, Mass., 1904
Koehler Co., H. J., Newark, N. J., 1909; later Koehler Motors Co.
Kopp Motor Truck Co., Buffalo, N. Y., 1911
Kosmath Co., Detroit, Mich., 1913
Kratzner Automobile Co., Allentown, Pa., 1912
Krebs Co., Bellevue, Ohio, 1923; taken over by Buck Motor Truck Co.
Krebs Commercial Car Co., Clyde, Ohio, 1912
Krickwell Motor Truck Co., Chicago, Ill., 1912
Kugel Auto Co., Indianapolis, Ind., 1913
Kuhn Tractor Truck Co., Seattle, Wash., 1918

L

L.A.W. Motor Truck Co., Findlay, Ohio, 1912
(L.M.C.) Louisiana Motor Truck Co., Shreveport, La., 1919
LaCrosse Motor Truck Co., LaCrosse, Wis., 1913
Lafayette Motor Truck Co., Lafayette, Ind., 1917
LaFrance Motor Truck Co., Elmira, N. Y., 1917; later Ward LaFrance Truck Co.
LaFrance-Republic Motor Truck Co., Milwaukee, Wis., 1929; taken over by Sterling Motor Truck Co.; see Republic
(Lambert) Buckeye Mfg. Co., Anderson, Ind., 1902; later Lambert Motor Truck Co.
Lambert-Morin Motor Vehicle Co., Lawrence, Mass., 1912
Lambert Motor Truck Co., Anderson, Ind., 1907; formerly Buckeye Mfg. Co.
Lammert & Mann Co., Chicago, Ill., 1922
Lamson Truck & Tractor Co., Chicago, Ill., 1917; formerly Zeitler & Lamson Motor Truck Co.
Landshaft & Sons, Wm., Chicago, Ill., 1911
Lane Motor Truck Co., Kalamazoo, Mich., 1916; taken over by Kalamazoo Motors Corp.
Lange Wagon Co., H., Pittsburgh, Pa., 1911; later Lange Motor Truck Co.
Lanpher Motor Buggy Co., Carthage, Mo., 1910
Lansden Co., Newark, N. J., 1906; then Danbury, Conn.
Lapeer Tractor Truck Co., Lapeer, Mich., 1920
Larrabee Deyo Motor Truck Co., Binghamton, N. Y., 1915
Laurel Motors Corp., Anderson, Ind., 1922
Lauth-Juergens Motor Car Co., Fremont, Ohio, 1906; later Taylor Truck Co.
Leach Biltwell Motor Co., Los Angeles, Cal., 1920
LeBlond Schacht Motor Truck Co., Cincinnati, Ohio, 1915; see Schacht Motor Mfg. Co.
Lee Power Co., Henry, Chicago, Ill., 1911; later Old Reliable Motor Truck Co.
Lehigh Co., Allentown, Pa., 1925
Leitner Motor Truck Co., Kenton, Ohio, 1912
Lende Automobile Mfg. Co., Minneapolis, Minn., 1907
Lenox Motor Car Co., Hyde Park, Mass., 1916
Lewis Motor Truck Co., San Francisco, Cal., 1912
Liberty Auto Truck Co., Chicago, Ill., 1919
Light Commercial Car Co., Wilmington, Del., 1912; later Wayne Light Commercial Car Co.
Lincoln Automobile Co., Lincoln, Ill., 1907
Lincoln Motor Car Works, Chicago, Ill., 1911
Lincoln Motor Truck Co., Detroit, Mich., 1916
Lincoln Motor Truck Co., San Francisco, Cal., 1914
Lindsley Co., J. V., Indianapolis, Ind., 1908; later J. V. Lindsley Auto Co., Dowagiac, Mich.

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GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK

DIRECTORY OF
ASSOCIATIONS
National–State–Maintenance

Including manufacturer and fleet groups,

and the Highway Users Conferences

EDITOR'S NOTE:— CCJ believes that these listings of various associations, all of which are directly concerned with the manufacture or operation of trucks, will be a real asset to the fleet operator. It is the first time that such an all-inclusive list has been assembled.

While every attempt has been put forth to make the listings as complete as possible, it is obvious that some may have been omitted. This is particularly true of the relatively newer fleet maintenance associations which have been gaining widespread popularity throughout the nation. CCJ will welcome the basic information shown here for any such groups not included.

In each case the year shown in parentheses is the date in which the organization was founded.

NATIONAL ASSOCIATIONS

AMERICAN TRUCKING ASSOCIATIONS, INC. (1933)
1424 Sixteenth Street, N.W., Washington 6, D. C.
ATA Executive Staff:
Managing director—John V. Lawrence
General manager—Ray G. Atherton
Asst. Genl. Mgr. & Dir. Traffic Dept.—Carl F. Jackson
Asst. Genl. Mgr. & Dir. Public Relations—Walter W. Belson
General Counsel—Edgar S. Idol
Comptroller—George H. Minnick
Dir. Dept. of Research—W. A. Bresnahan
Dir. Dept. of Safety—G. D. Sontheimer
Dir. Dept. Industrial Relations—Benjamin R. Miller
Dir. Field Service Dept.—Harry B. Bridgman
Editor, Transport Topics—Morris H. Glazer
Dir. Production & Mailing Dept.—P. J. Kessel
ATA Sections:
Equipment & Operations Section—Hoy Stevens, chief
Freight Claim Section—John M. Miller, sec.
Special Services Section—E. M. Welliver, chief
Government Traffic Section—E. F. MacMillan, chief
Publicity Section—Robert J. Test, chief
Accident Statistics Section—Neil Darmstadter, chief
Librarian—Dorothy Smith
ATA Conferences:
Regular Common Carrier Conference—Robert J. McBride, Genl. Mgr.
Local Cartage Conference—Frank Floyd, Exec. Sec.
Household Goods Carriers Conference—James F. Rowan, Exec. Sec.
Tank Truck Carriers Conference—C. Austin Sutherland, Sec. Mgr.
Contract Carriers Conference—Mrs. Vee Kennedy, Exec. Sec.
Automobile Transporters Conference—W. A. Bresnahan
Film Carriers Conference—Harry B. Bridgman
Oilfield Haulers Conference—Martin Garvey
Private Carriers Conference—Vincent O'Donnell

AUTOMOBILE MANUFACTURERS ASSN. (1914), 320 New Center Bldg., Detroit 2, Mich.
Staff Executives:
Managing Dis.—Wm. J. Cronin
Advisory V. P.—Alfred Reeves
Motor Truck Div. & Field Services Dept.—Karl M. Richards, Mgr.
Dir. Public Relations—Wm. H. McGaughey
Statistical Dept.—O. P. Pearson, Mgr.
Patent Dept.—George C. Arvedson, Mgr.
Traffic Dept.—Kenneth A. Moore, Mgr.
Washington Office—Harlan V. Hadley, Mgr., 830 Transportation Bldg.

NATIONAL AUTOMOBILE TRANSPORTERS ASSN. (1944), 2627 Barlum Tower, Detroit, Mich., R. E. Beiser, Gen. Mgr.

NATIONAL COUNCIL OF PRIVATE MOTOR TRUCK OWNERS, INC. (1939), 1015 National Press Bldg., Washington 4, D. C., Leon F. Banigan, Managing Director.

NATIONAL HIGHWAY USERS CONFERENCE, INC. (1932), 938 National Press Bldg., Washington 4, D. C.
Staff Executives:
Director—Arthur C. Butler
Asst. Director—P. D. McLean
Research Counsel—Dawes E. Brisbine
Regional Representatives:
Mgr. State Services Dept.—Russell E. McCleery, 938 National Press Bldg., Washington 4, D. C.
Wm. F. Duffy, 94 Greenbush St., Cortland, N. Y. (Conn., N. J., N. Y.)
Cecil Fausch, Gaylord, Minn. (Iowa, Neb., N. D., Minn., S. D.)
Walter Holland, c/o Sam Adkisson, 2121 Robinson Ave., Conway, Ark. (Temporary address.) (Ark., Kans., Mo., Alka, Texas.)
Wm. L. Kinney, R.F.D. #1, College Park, Ga. (Fla., Ga., N. C., S. C.)
Russell D. Lund, 30 N. LaSalle St., Chicago, Ill. (Ill., Ind., Mich., Ohio, Wis.)
David F. McQuaid, 3 Taft St., Nashua, N. H. (Me., Mass., N. H., R. I., Vt.)
Edmund C. Pusey, 614 Longfellow St., N.W., Washington, D. C. (Del., Md., Pa., Va., W. Va.)
John C. Sandidge, Gilman Ave., Nashville, Tenn. (Ala., Ky., La., Miss., Tenn.)
Randle P. Shields, 129 Burbank Ave., San Mateo, Cal. (Ariz., Cal., Nev., N. M., Ore.)
H. B. Simpson, 1486 S. 13th St. East, Salt Lake City, Utah. (Colo., Idaho, Mont., Utah, Wash., Wyo.)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (1905), 20 West 39th Street, New York 18, N. Y.
Staff Executives:
Sec. & Gen. Mgr.—John A. C. Warner
Meetings Div.—T. A. Bissell, Mgr.
Technical Div.—Don Blanchard, Mgr.
Membership & Sections Div.—Hollister Moore, Mgr.
Administrative Div.—J. C. Hollis, Mgr.
Publications Div.—Norman G. Shidle, Mgr.

TRUCK-TRAILER MANUFACTURERS ASSN., INC. (1941), 809 National Press Bldg., Washington 4, D. C. John B. Hulse, Sec.-Mgr.

FLEET MAINTENANCE ASSOCIATIONS

FLEET MAINTENANCE ASSN. OF PHILADELPHIA (1948), 20th & Erie Ave., c/o The White Motor Co., Philadelphia, Pa. J. Everett Martin, Sec.
MOTOR TRUCK MAINTENANCE CLUB OF NEW YORK (1941), c/o Consolidated-Edison Co., 708 1st Avenue, New York, N. Y. W. H. Dietz, Sec.
NATIONAL ASSN. OF FLEET SUPERVISORS, Spokane Chapter (1947), 2619 Upton Ave., Spokane, Wash. John H. Robertson, Sec.
NATIONAL ASSN. OF FLEET SUPERVISORS (1947), Jas. Lathrop, sec., c/o Seattle Safety Council, Seattle, Wash.
SOCIETY OF FLEET SUPERVISORS (1945), 1 Madison Ave., New York 10, N. Y. Thomas J. Berk, Sec.
TRUCK & BUS MAINTENANCE ASSN. OF BUFFALO (1945), 226 Ohio Street, Buffalo 4, N. Y. Charles J. Palisano, Sec.

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Directory of ASSOCIATIONS

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STATE ASSOCIATIONS

MOTOR VEHICLE ASSN. OF ALABAMA, INC. (1936), 22 Comer Bldg., Birmingham 3, Ala., R. J. Goode, Exec. Vice Pres.

ARIZONA MOTOR TRANSPORT ASSN., INC. (1939), 638 Security Bldg., Phoenix, Ariz., Dudley L. Rothmund, Mgr.

ARKANSAS BUS AND TRUCK ASSN., INC. (1942), 614 Wallace Bldg., Little Rock, Ark. Carroll L. Owens, Sec.-Mgr.

THE MOTOR TRUCK ASSN. OF SOUTHERN CALIFORNIA (1935), 605 West 7th St., Los Angeles 14, Cal. Wade Sherrard, Gen. Mgr.

TRUCK OWNERS ASSN. OF CALIFORNIA (1934), 417 Market St., Rm. 218, San Francisco 5, Cal., Larry M. Fites, Managing Dir.

COLORADO MOTOR CARRIERS ASSN. (1939), Suite 407, Denham Bldg., Denver 2, Colo., E. Robert Baker, Exec. Sec.

MOTOR TRANSPORT ASSN. OF CONN., INC. (1930), 410 Asylum St., Hartford, Conn., John F. Maerz, Exec. Vice Pres. & Gen. Mgr.

DELAWARE MOTOR TRUCK ASSN., INC. (1939), Keith Bldg., Dover, Del., Daniel F. Sullivan, Gen. Mgr.

DIST. OF COLUMBIA TRUCKING ASSN. (1934), 1424 16th Street, N.W., Washington 6, D. C., Robert J. Test, Exec. Sec.

FLORIDA TRUCKING ASSN., INC. (1934), 218 W. Church St., P. O. Box 238, Jacksonville 1, Fla., C. A. Gertner, Exec. Sec.

MOTOR VEHICLE ASSN. OF GA., INC. (1934), 515-17 Chamber of Commerce Bldg., Atlanta 3, Ga., R. S. Reese, Exec. Sec.

IDAHO MOTOR TRANSPORT ASSN. (1939), 414 Main St., P. O. Box 834, Boise, Idaho, Bert Trask, sec.-Mgr.

CENTRAL MOTOR FREIGHT ASSN., INC. (1930), 29 E. Madison St., Rm. 1504, Chicago 2, Ill., R. B. Thornton, Mgr.

ILLINOIS MOTOR TRUCK OPERATORS ASSN. (1924), 10 S. LaSalle St., Chicago 3, Ill., Walter E. McCarron, Exec. Dir.

NATIONAL TRUCK LEASING SYSTEM, INC. (1945), 23 E. Jackson Blvd., Chicago 4, Ill., Martha Dunlap, Exec. Sec.

INDIANA MOTOR TRUCK ASSN., INC. (1932), 701-703 Roosevelt Bldg., Indianapolis 4, Ind., J. E. Nicholas, Exec. Sec.

IOWA MOTOR TRUCK ASSN., INC. (1943), 310 Central National Bldg., Des Moines, Iowa, John H. Gillespie, Exec. Sec.

KANSAS MOTOR CARRIERS ASSN., INC. (1936), 503 New England Bldg., Topeka, Kan., Gerald E. Coone, Sec.-Mgr.

KENTUCKY MOTOR TRANSPORT ASSN., INC. (1924), 601 Republic Bldg., Louisville 2, Ky., Lew Ullrich, Managing Dir.

LOUISIANA MOTOR TRANSPORT ASSN. (1939), 528 Florida St., Box 1326, Baton Rouge, La., Ben H. Grayson, Gen. Mgr.

MAINE TRUCK OWNERS ASSN. (1946), Rm. 213, 415 Congress St., Portland 3, Me., Wm. P. Shapleigh, Exec. Sec.

MARYLAND MOTOR TRUCK ASSN., INC. (1935), 22 Light St., Baltimore 2, Md., W. F. Kneip, Gen. Mgr.

MASSACHUSETTS MOTOR TRUCK ASSN., INC. (1919), 262 Washington St., Boston 8, Mass., Myles W. Illingworth, Mgr.

MICHIGAN TRUCKING ASSN., INC. (1934), 220 Hotel Fort Shelby, Detroit 26, Mich., Miss Florence M. Kiely, Managing Dir.

MINNESOTA MOTOR TRANSPORT ASSN. (1932), 2395 University Ave., St. Paul 4, Minn. Lou Hosking, Gen. Mgr.

MISSISSIPPI TRANSPORT ASSN., INC. (1943), 504-505 Deposit Guaranty Bank Bldg., Jackson 104, Miss., H. M. Fisher, Mgr.

MISSOURI BUS AND TRUCK ASSN. (1937), 118-A East High St., Jefferson City, Mo., U. G. Lewellen, Mgr.

MONTANA MOTOR TRANSPORT ASSN. (1938), P. O. Box 1244, Billings, Mont., C. F. Reardon, Sec.-Mgr.

NEBRASKA MOTOR CARRIERS ASSN., INC. (1924), 816 Trust Bldg., Lincoln, Nebr., Paul Halpine, Exec. Sec. & Gen. Mgr.

NEVADA MOTOR TRANSPORTATION ASSN. (1939), 209 N. Center St., Reno, Nev., C. M. Loer, Acting Mgr.

NEW HAMPSHIRE TRUCK OWNERS ASSN., INC. (1936), 590 Elm St., Manchester, N. H., A. J. Staby, Sec.-Mgr.

NEW JERSEY MOTOR TRUCK ASSN. (1915), 973 McCarter Highway, Newark 2, N. J., D. J. Crecca, Mgr.

NEW MEXICO MOTOR CARRIERS' ASSN., INC. (1938), 514 North 2nd St., Albuquerque, N. M. Charles H. Washam, Mgr.

GREATER NEW YORK SAFETY COUNCIL, COMMERCIAL VEHICLE SECTION (1936), 60 East 42nd St., New York 17, N. Y., Paul F. Stricker, Exec. Vice-Pres.

MOTOR CARRIER ASSN. OF NEW YORK (1944), 23 East 26th St., New York 10, N. Y., Jos. M. Adelizzi, Managing Dir.

NEW YORK STATE MOTOR TRUCK ASSN., INC. (1932), 30 Vesey St., New York 7, N. Y., Frank B. Kurtz, Managing Dir.

NORTH CAROLINA MOTOR CARRIERS ASSN., INC. (1929), 712-715 Lawyers Bldg., Raleigh, N. C., J. T. Outlaw, Sec.-Treas.

NORTH DAKOTA MOTOR CARRIERS ASSN., INC. (1935), Box 874, Bismarck, N. D., Ivar T. Mattson, Mgr.

OHIO ASSN. OF COMMERCIAL HAULER (1918), 3310 LeVeque Lincoln Tower, Columbus 15, O., Frank E. Kirby, Exec. Sec.

ASSOCIATED MOTOR CARRIERS OF OKLAHOMA, INC. (1932), 236 Oklahoma Natural Bldg., Oklahoma City, Okla., W. E. Van Vacter, Sec.-Mgr.

OREGON MOTOR TRANSPORT ASSN. (1939), 409 Weatherly Bldg., Portland 14, Ore., C. O. Knowlton, Mgr.

PENNSYLVANIA MOTOR TRUCK ASSN., INC. (1928), Telegraph Bldg., Harrisburg, Pa., Edward Gogolin, Vice-Pres. & Gen. Mgr.

RHODE ISLAND TRUCK OWNERS ASSN., INC. (1931), 49 Weybosset St., Providence, R. I., Joseph Connell, Mgr.

MOTOR TRANSPORTATION ASSN. OF SOUTH CAROLINA, INC. (1933), Jefferson Hotel, Columbia, S. C., W. B. Love, Jr., Gen. Mgr.

ASSOCIATED MOTOR CARRIERS, INC., OF S. D. (1937), P. O. Box 496, Sioux Falls, S. D., H. Lauren Lewis, Gen. Mgr.

TENNESSEE MOTOR TRANSPORT ASSN. (1934), 401 Cotton States Bldg., Nashville 3, Tenn., J. W. Lenon, Gen. Mgr.

TEXAS MOTOR TRANSPORTATION ASSN., INC. (1932), Box 92, Austin 1, Texas, Lynn B. Shaw, Gen. Mgr.

UTAH MOTOR TRANSPORT ASSN., INC. (1932), P. O. Box 686, 1030 Gale St., Salt Lake City 4, Utah, L. Darrel Welling, Mgr.

VERMONT TRUCK & BUS ASSN., INC. (1934), Barre, Vt., M. B. Emerson, Mgr.

VIRGINIA HIGHWAY USERS ASSN., INC. (1931), 122 N. 8th St., Richmond 19, Va., Randolph P. Saunders, Exec. Sec.

WASHINGTON MOTOR TRANSPORT ASSN., INC. (1923), 1200 Westlake Ave. North, Seattle 9, Wash., Ray H. Culbertson, Sec.-Mgr.

WEST VIRGINIA MOTOR TRUCK ASSN., INC. (1936), 611½ Pennsylvania Ave., P. O. Box 887, Charleston 23, W. Va., Fred M. Case, Jr., Mng. Dir.

WISCONSIN MOTOR CARRIERS ASSN. (1931), 1 West Main St., Rm. 201, Madison 3, Wis., Edward J. Konkol, Gen. Mgr.

WYOMING TRUCKING ASSN., INC. (1940), Townsend Bldg., Rm. 1 & 2, Casper, Wyo., Matt Grishaber, Sec.-Mgr.

STATE HIGHWAY USERS CONFERENCES

Alabama—Charles Brantley, Alabama Petroleum Industries Committee, Shepherd Bldg., Montgomery 4, —Sec.

Arizona—C. F. Williams, Fruehauf Trailer Co., 902 South 7th St., Phoenix—Sec.

Arkansas—W. F. Scarborough, Arkansas Petroleum Industries Committee, Rector Bldg., Little Rock—Sec.

Colorado—M. W. Jones, Asst. Mgr., International Harvester Co., Box 5526 Terminal Annex., Denver—Sec.

Connecticut—W. B. Robinson, Gen. Mgr., Hartford Automobile Club, 499 Farmington Ave., Hartford—Sec.

Delaware—Ralph Peters, Sec., Delaware State Farm Bureau, Parke Bldg., So. State St., Dover—Sec.

Florida—C. A. Gertner, Florida Trucking Assn., Inc., 218 W. Church St., P. O. Box 238, Jacksonville—Sec.

Georgia—Clay C. Straw, 1490 Lanier Place, N.E., Atlanta—Sec.

Idaho—Bert Trask, Sec.-Mgr., Idaho Motor Transport Assn., 155 South 8th St., Boise—Sec.

Illinois—Miss Altoe Nelson, Illinois Bus. Assn., Leland Bldg., Springfield—Sec.

Indiana—Leland K. Fishback, Indiana Petroleum Industries Committee, Circle Tower, Indianapolis 4—Sec.

Iowa—Clint A. Allen, Iowa Limestone Assn., 400 Teachout Bldg., Des Moines—Sec.

Kansas—Gerald E. Coone, Sec.-Mgr., Kansas Motor Carriers Assn., Inc., 639 New England Bldg., Topeka—Sec.

Kentucky—R. H. Proctor, Asst. Sec., Kentucky Farm Bureau Federation, St. Matthews—Sec.

Louisiana—J. Y. Koch, Mgr., New Orleans Div., American Automobile Assn., 616 Poydras St., New Orleans—Sec.

Maine—Leroy T. Snowdon, Maine Petroleum Industries Committee, 283 Water St., Augusta—Sec.

Maryland—J. C. Darrell, Automotive Trade Assn. of Maryland, Suite 336, Belvedere Hotel, Baltimore—Sec.

Massachusetts—Richard F. Paul, Massachusetts Petroleum Industries Committee, 11 Beacon St., Boston 8—Sec.

Michigan—Miss Florence M. Kiely, Mng. Dir., Michigan Trucking Assn., Inc., 220 Ft. Shelby Hotel, Detroit 26—Sec.

Minnesota—H. M. Whisman, Minnesota Petroleum Industries Committee, Builders Exchange Bldg., Minneapolis 2—Sec.

Mississippi—L. A. Wyatt, Jr., Exec. Sec., Mississippi Petroleum Industries Committee, 1204 Deposit Guaranty Bank Bldg., Jackson 14—Sec.

Missouri—D. G. Spencer, Missouri Petroleum Industries Committee, Rms. 320-321 Hotel Governor, Jefferson City—Sec.

Montana—John J. Jewell, Montana Automobile Dealers Assn., P. O. Box 1005, Gold Block, Helena—Sec.

Nebraska—H. H. Hahn, Nebraska Petroleum Marketers Assn., Inc., 817 Trust Bldg., Lincoln 8—Sec.

Nevada—Jerry Monaghan, General Petroleum Corp., Reno—Sec.

New Hampshire—A. J. Staby, New Hampshire Truck Owners Assn., 590 Elm St., Manchester—Sec.

New Jersey—W. J. Gaffney, New Jersey Petroleum Industries Committee, 28 W. State St., Trenton 8—Sec.

New Mexico—Fred Linn, Exec. Sec., New Mexico Petroleum Industries Committee, 407-8 Sunshine Bldg., P. O. Box 1666, Albuquerque—Sec.

New York—Charles Henderson, Exec. Vice-Pres., New York State Automobile Dealers Assn., 190 State St., Albany—Sec.

North Carolina—Mrs. Margaret Caldwell, Master, North Carolina State Grange, Piedmont Bldg., Greensboro —(Acting Sec.)

North Dakota—Harry Janke, Dakota Transfer, Minot—Sec.

Ohio—J. Russell Lloyd, Ohio State Automobile Assn., 50 W. Broad St., Columbus—Sec.

Oklahoma—W. E. Van Vactor, Associated Motor Carriers of Oklahoma, Inc., 236 Key Bldg., Oklahoma City—Sec.

Oregon—J. H. Cassell, 306 Woodlark Bldg., Portland—Sec.

Pennsylvania—R. B. Maxwell, Pennsylvania Motor Federation, State Street Bldg., State and 3rd Sts., Harrisburg—Acting Sec.

Rhode Island—Joseph E. Connell, Sec.-Mgr., Rhode Island Truck Owners Assn., 49 Weybosset St., Providence—Sec.

South Carolina—John T. Melton, Jr., South Carolina Petroleum Industries Comm., 900 Liberty Life Bldg., Columbia 7—Sec.

South Dakota—E. W. Stephens, South Dakota Petroleum Industries Committee, Hengel Bldg., Pierre—Sec.

Tennessee—Charles C. Gilbert, Jr., Tennessee Petroleum Industries Commission, Rm. 510, Cotton States Bldg., Nashville—Sec.

Texas—O. R. Davis, Oilfield Haulers Assn., Box 922, Austin 5—Sec.

Utah—Lyle D. Sarvis, Mgr., Utah State Automobile Assn., 44 East 4th St. So., Salt Lake City—Sec.

Vermont—Richard Parker, Vermont Petroleum Industries Committee, Perry Block, 52 State St., Montpelier—Sec.

Virginia—John E. Raine, Mgr., Automotive Trade Assn. of Virginia, Merchants National Bank Bldg., P. O. Box 2-N, Richmond—Sec.

Washington—Douglass Shelor, (AAA) Automobile Club of Washington, 1109 Pine St., Seattle 1—Sec.

West Virginia—Francis C. Farley, West Virginia Petroleum Assn., Rm. 709, Atlas Bldg., Charleston 1—Sec.

Wisconsin—Stuart B. Wright, Wisconsin Div., American Automobile Assn., 103 N. Hamilton St., Madison 3—Sec.

Wyoming—Matt Grishaber, Mgr., Wyoming Trucking Assn., Townsend Bldg., Casper—Sec.

tinental and at a press preview held

GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK

Motor Transport in the 50's

A conservative look ahead at trucks of the not-too-distant future—based on engines, fuels, transmissions and other developments already in the manufacturers' trying pans

by ***JOSEPH GESCHELIN*** *and* ***LEONARD WESTRATE***
CCJ Detroit Technical Editor — CCJ Detroit News Editor

KETTERING said recently that hardly anyone can make a long range prediction about the automotive business that will be anywhere near right. Generally they either fall far short of the mark or overshoot it by a considerable margin. Bearing this in mind the appraisal made here is based entirely on trends we know to be on the fire, many of which should be available to fleetmen in a matter of a few years.

If we look far enough ahead—and 10 years is a long time in the truck business—we can expect almost anything to happen. In fact the only thing we would discount is any possibility of having a fission-energy powerplant for motor vehicles. On the other hand it is reasonable to expect that the gas turbine may become a practical powerplant for heavy-duty vehicles in 10 years, considering that right now a number of important organizations—Boeing being one example—have a practical gas turbine designed for light aircraft, with an output of 150 hp.

Although motor trucks are designed and built on a more conservative basis than are passenger cars, the truck industry needs must respond to certain basic trends, fuels and lubricants having by far the greatest import. Apart from the impact of fuels and lubricants, the truck industry is affected most seriously by legislation as to weight, size, gradeability, and other restrictive measures. These constitute the unknown quantities that make prophecy so uncertain.

Fuels and Their Effect

LET'S look first at the effect of fuels. Spurred by Kettering's work with the high compression engine there is considerable interest in the gradual development of engines of extremely high compression ratio. This may have been academic a year ago when Ket described the 12.5 to 1 compression ratio engine at French Lick but it's serious business now. We know definitely that both Oldsmobile and Cadillac will have V-8 engines with a compression ratio of 8 to 1 to start with and can doubtless tolerate a considerable increase in compression ratio with the same design. Since both engines are designed to burn service station premium fuels the problem of special fuels and new refinery building is side-stepped for the moment.

On the other hand, if the high compression engine really takes hold and if special fuels are required eventually, then it's a foregone conclusion that truck engines ultimately will have to go high compression. Of course, there can be a considerable time lag before trucks will be affected but they will have to conform well in advance of the time that service station fuels swing over to entirely new types—assuming that

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is that of accessibility for tinkering

verters for their automatic shifting.

far the builders should go in elaborate

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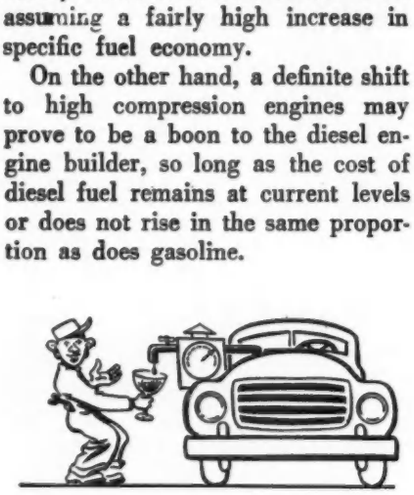
will happen five years or more from now.

Whether or not that's a good deal is something for the experts to decide. If there is any substance in estimates that the special fuels may cost around 40 cents a gallon because of new refinery costs, it's going to be pretty hard to justify the change to high compression engines. With gas around 40 cents, an operator can hardly break even on fuel costs even assuming a fairly high increase in specific fuel economy.

On the other hand, a definite shift to high compression engines may prove to be a boon to the diesel engine builder, so long as the cost of diesel fuel remains at current levels or does not rise in the same proportion as does gasoline.



Vita-Meter Possibilities

MEANWHILE there are other developments worthy of mention and worth watching. First of these has been the subject of discussion in CCJ for several years. We refer to the water - alcohol - additive attachments, such as the Thompson Vita-Meter, which make possible the use of fuels of low octane rating. Where the fleet can get a steady supply of straight-run gasoline, the attachment boosts the octane rating of the fuel to the requirements of the engine. So the operator has the advantage of a lower-priced fuel to start with. However, the biggest talking point is the fact that with straight-run gasoline you should have a clean engine, one that does not require constant maintenance to keep valves and heads and lubrication system in good operating shape.

Developments in fuel injection systems for gasoline engines have not progressed as fast as was anticipated. We understand, however, that one of the manufacturers interested in making fuel injection systems has built an experimental unit for one of the truck builders and this should be under test on the road some time soon. The results should be of real interest and will go far to show whether or not solid gasoline injection has economic justification for fleet operations.

Higher-Priced Mufflers

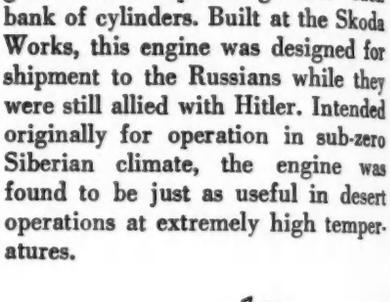
FROM the standpoint of the fleetman, at least, whether we have gasoline or diesel engines, something should be done to improve the exhaust system. The muffler is one of the troublesome items on any truck. By supplying mufflers of adequate size—and that means really big ones—and made of heat- and corrosion-resistant materials, the truck producer will go far to reduce maintenance costs and eliminate a positive nuisance. Judging by the literature and by contacts with muffler makers it appears that the only bar to acceptable mufflers is cost. It is also certain that most fleet operators would be willing to pay the extra cost if they were assured of the results.

Aircooled Engines

A DEVELOPMENT of recent origin is the aircooled engine for truck service. Of course there is nothing new about the aircooled engine. Horizontal - opposed engines have been on the market for some 15 years. However, they have been sold primarily for light aircraft and seldom if ever offered for truck installation. At the SAE Summer Meeting at French Lick this year Greyhound showed an experimental bus fitted with two aircooled engines. At the same meeting Col. Colby presented a paper describing the adoption of horizontally opposed aircooled engines with a vertical crankshaft mounting as standard practice for the new line of heavy-duty military vehicles.

We learned later that these engines had been developed and built by Continental and at a press preview held by Continental in September found these engines are considerably lighter than water-cooled engines of the same output, take considerably less space. Moreover, the aircooled job dispenses forever with the problems of cooling either in hot or frigid weather. Although the Continental engines were developed for the Armed Forces, it is obvious there is no reason why they should not be produced for commercial use, if there is sufficient demand from the field.

It may be noted that the Czechs developed during the Nazi occupation a big V-type aircooled diesel engine with a supercharger for each bank of cylinders. Built at the Skoda Works, this engine was designed for shipment to the Russians while they were still allied with Hitler. Intended originally for operation in sub-zero Siberian climate, the engine was found to be just as useful in desert operations at extremely high temperatures.



Extra Big Engines

WHILE on the subject of engines it is well to emphasize that engine size still is a matter of intense interest. We understand that Hall-Scott has recently built some V-8 engines of extremely large output. We hear confidentially that it is an automotive version of the V-type Admiral engine built for the Navy during the war for use in European combat vessels somewhat similar to our PT's. The navy engine was supercharged, the automotive version is not.

To meet requirements of gradeability on mountain highways and high road speeds, engine requirements are up around the 500 hp mark at the present time. There must be a limit to engine size. What it is or what it will be in the future, we can't pretend to predict.

Accessibility

CONSIDERING the motor truck as a unit, perhaps the major requirement from the operator's standpoint

is that of accessibility for tinkering and for major overhauls. Lack of accessibility has been criticized by fleetmen in the past and although improvements have been effected there is room for progress in this direction. You will recall that Diamond T recently announced the installation of a removable fender to facilitate accessibility. We learned recently that another important truck manufacturer will have a rather startling story in this connection around the first of next year.

Automatic Transmissions

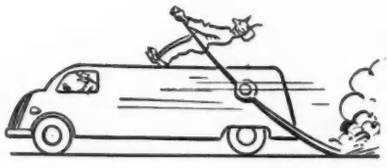
HAVING touched on engines, let's look at the power train - clutch, transmission, and axle. The trend in the motor truck field has been conservative. Clutches have grown larger, more dependable, longer lived. On big jobs the transmission set-up generally includes a five-speed main transmission in combination with a two- or three-speed auxiliary. At the operator's option a two-speed rear axle may be installed in combination with a four- or five-speed transmission. More recently the work done by fleetmen on the West Coast has resulted in a steady drive for transmission ratios more closely and more uniformly spaced.

However, despite the trend to automatic transmissions in passenger cars, no one is pressing a similar development for motor trucks. Our general impression is that truck requirements as to speed range and multiplicity of gear ratios simply cannot be met adequately by the torque converters currently in production, even though exceptional operating characteristics have been imparted to city buses.

Considering the present activity in the field of torque converters who can say that automatic shifting is not in the picture? While it may take more years of experience we should not discount the potentiality of torque converters of advanced type suitable for motor truck operation.

In fact there has been an approach to this in recent times. One transmission builder has been working on the development of a torque converter for light delivery trucks during the past few years. It's not yet ready to disclose but pretty close to it. The new military trucks, mentioned earlier, the ones with air-cooled engines, rely on torque converters for their automatic shifting.

Some years ago Fuller equipped a fleet of heavy off-the-highway trucks with large fluid couplings and had signal success with the installation. We have reason to believe that one of the important truck builders will come out soon with a line of vocational jobs all equipped with fluid couplings. It may mark the beginning of a lot of activity along that line since it will be the first instance of an extensive application of fluid couplings in motor trucks.



Brake Improvements

THE trend in brakes also has been conservative, with emphasis on power brakes for large units. There is an increasing adoption of Hydro-vac booster applications on the one hand; and air brakes for big jobs on the other. Among new developments in this field is the potentiality of electrically-actuated brake systems; and the possible use of eddy-current type brake retarders for heavy jobs, provided the retarders can be made sufficiently light and reasonably lower in cost.

New Engines May Change Styling

WHAT is coming up during the next few years in truck styling is pretty hard to forecast. The general opinion among the truck engineers is that it probably will continue to follow in a broad way the styling of passenger cars, as has been done in the past. Truck cab appearance today has taken on the massive sheet metal. greater window area, and fancier grillework that mark the postwar passenger car. There seems to be agreement among truck builders that present truck styling is pretty well advanced and that there will not be any major departures for two or three years at least. This is particularly true in the smaller popular sizes. The real large heavy-heavy jobs have undergone very little change in appearance, and probably will remain pretty much as they are.

There is some difference of opinion among truck engineers on just how far the builders should go in elaborate appearance. One spokesman says that there even might be some regression in styling during the next few years. He points out that current high, wide, and handsome styling may look nice, but makes servicing the vehicle more difficult, with the engine shrouded under and behind broad expanses of steel panel. Not only is it more difficult for mechanics to get at the works of the truck, but with much more side metal exposed and grille work getting fancier all the time, maintenance expense is increased, he says. Another point he mentioned is that trucks are essentially vehicles of utility and do not require excessive ornamentation, which is not only costly to maintain, but may add weight. (Maybe he has been talking to some of the same operators we have.)

Some truck engineers say that engineering developments during the next few years may have a bearing on general truck appearance. For example, use of shorter engines, flat types, or vertically mounted power plants might make possible moving the whole cab and hood assembly further forward, much as is done now in C.O.E. jobs.

Steering

WITH the increasing use of steering gear of recirculating ball type and the current improvements in conventional gear, the problem of steering has been met quite adequately. What the potential of hydraulic or power-actuated steering gear will be is a matter for conjecture. In the first place, the producers of power steering are the first to emphasize that power steering is important mainly on extremely heavy vehicles and for special operating requirements such as off-the-highway and for buses to facilitate parking. Nevertheless, as the heavy-heavy vehicles increase in capacity and step up road speeds, and as front ends go still heavier with the use of real big engines, the importance of power steering may be very much in the picture.

Specialized Vehicles

IT is impossible to predict with any degree of accuracy the expanding field of specialized vehicles. By the

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end of the year we shall see a large number of different makes offering specialized chassis and complete vehicles of forward-drive vocational types. The C-O-E is doubtless one of the oldest types of specialized vehicles. Despite improvements made over the years, the C-O-E still remains a specialized type designed for special operating conditions. While nothing in the picture indicates that this type of transportation will be displaced, a lot remains to be done to improve accessibility and serviceability of vehicles of this type.

Ignition Systems

RECENT developments point to considerable improvement in ignition systems. Application of silicones for insulating coatings and the adoption of new materials makes possible the building of generators and starting motors of much greater capacity in smaller packages. Current work on batteries indicates the probability of smaller sizes packing a greater punch and having longer life. Pending developments in spark plugs also promise better performance.

The outlook for lighting is more conservative since the sealed beam headlamp system remains the only practical solution at this time. Whether or not Polaroid will be improved sufficiently to remove present objections is a matter for conjecture. Nevertheless, Polaroid is a very active organization and may turn up with something that will conceivably revolutionize night driving.

Trailers May Be Lighter

TRAILER manufacturers are not expecting any radical developments in design or materials over the next few years. They point out that the next move in increasing payload carrying capacity of truck-trailer units is up to highway authorities who set length, width, and weight limitations. If and when these regulations are liberalized, trailers will be built to carry larger, heavier loads at maximum permitted speeds. At the moment, axle loading restrictions are the most important, since trailer manufacturers contend that maximum weights now allowed are well under the capacity of what highways will carry with safety.

There will be continued development work, of course, with lighter metals and construction design in an effort to keep vehicle weight to a minimum consistent with strength, but nothing spectacular is in sight at this point. If the metallurgists should develop a strong, light alloy, trailer builders will be among the first to take advantage of it. Currently, aluminum, stainless steel, and even magnesium, are being used to some extent, but cost is so much higher than for low carbon steel that they are confined to specific operations where the added payload will compensate for the higher vehicle cost. There is one new development that may have possibilities for trailer construction, but it will be several years before it can be evaluated for that use. duPont has developed a new product called titanium metal, which is as strong as stainless steel and only half the weight. It is strictly in the experimental class at the moment and sells for $5 a pound. Many years of research will be required before it will be known whether the metal is suitable for trailer construction and if it can be produced cheaply enough to warrant its use.

Status Quo in Driver Comfort

SO far as driver comfort is concerned, truck manufacturers point to the great strides made in that direction during the past year or two and say that while further advances will be made, they will be gradual. Cabs now are roomier and better fitted out. Excellent heating ventilation equipment is available as optional equipment along with special seats that lessen fatigue. Further than that, the manufacturers say, there are many accessories available that the buyer may want to put on the truck for driver comfort such as visors, radios, Kleenex dispensers, or whatever. At any rate, the disparity between passenger car and truck comfort has been greatly lessened and, granting that a truck will never ride like a Cadillac, consideration for the physical ease of the truck driver will continue to get a lot of attention from truck builders in the future.

Fuel Quality Going Up

DON'T look for any startling improvements in fuel quality for the next couple of years. Quality will get a little better during that time, particularly in the premium fuels, as it has since the end of the war, but the oil industry does not expect anything spectacular to develop. The reason is that with demand for petroleum products continuing at a phenomenal rate all efforts will be concentrated on meeting requirements. New refinery capacity is being built, but it is believed that it will be two years at least before capacity will be sufficient to turn out a sizeable volume of the better grades of fuel that call for new and larger equipment.

Diesels May Stand to Lose

IT appears likely that the price of gasoline and diesel fuels will continue at present high levels and may go even higher. For one thing, the trend toward higher compression engines is going to require higher octane gasoline, which not only requires a tremendous investment in capital equipment to produce, but also cuts the yield from each barrel of crude oil. In diesel fuels, the price differential already has narrowed tremendously, as compared to gasoline, in relation to what it was before the war. Competition from oil domestic heating units, industrial furnaces, and diesel locomotives has upped the demand stupendously during the past few years and will continue. Also, some states which have had no taxes on diesel fuel are preparing to correct this oversight and some other states which already have such taxes are talking about an upward nudge

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GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK

What FLEETMEN Want in TRUCKS of the FUTURE

Better accessibility is still the fleetmen's No. 1 wish. Other often-mentioned desires include: longer periods between inspections; weight reduction; better brakes particularly on light vehicles; more durable accessories; greater individualized attention from makers

Editor's Note: Commercial Car Journal invited the prominent fleet managers whose names appear on these pages to outline informally the improvements they would like to see made in motor trucks of the future. Their answers, representing a variety of truck operations, are herewith made a matter of record.

It is interesting to note that some of the answers are confined to practical suggestions which could be incorporated in vehicle design without radical change and with little tooling. Others, like Jack Snead's lead-off discussion, run the whole gamut into an idealistic future wherein trucks would be running 500 hours, or upwards of 10,000 miles, without so much as a lube job—fantastic as measured by today's standards but not beyond the realm of possibility, and certainly desirable from the standpoint of present-day economics.

Together, these suggestions of fleet operators make a valuable contribution to the problems of future truck design.

These suggestions are respectfully recommended to truck factory engineers and sales executives as primary objectives in their own endeavor to make motor trucks more efficient tools for business in the momentous years ahead.

500-Hour Inspections

Should be no need for routine maintenance before then . . . also need substantial weight reduction . . . good speedometers . . . better brakes . . . better ball bearings and accessories

J. L. S. SNEAD, JR.

Vice Pres., Operations & Maintenance, Consolidated Freightways, Inc., Portland, Ore.

THE first thing we need is a motor truck which requires fewer man hours of inspection, adjustment, preventive maintenance, lubrication and repair. It seems to us to be unreasonable that combinations costing between $20,000 and $25,000 should require any attention at all at 25-hour, 50-hour, 100-hour and 150-hour periods. Yet the heavy-duty trucks on the highways today do require such attention and on the average will require about 40 man-hours for every 55 hours of operation. We want and we must have vehicles which will perform the job we have to do with virtually no attention whatsoever except at 500-hour periods, and which will require not more than 35 per cent of the man-hours presently required for maintenance. We do not believe this is an unreasonable or unattainable objective.

The second thing we consider essential is a substantial reduction in the number of pounds we must carry to obtain one horsepower at the wheels. Closely allied with this is the absolute necessity for reduction in the number of pounds of fuel we must pay to obtain one horsepower hour at the wheels. These are basic economic factors in fleet operation. We must have substantial improvement in them.

There are a number of specific things we feel need improvement.

We need speedometers which will register the actual miles-per-hour regardless of the load on the tires.

As we reduce weight in the unsprung and chassis parts, replacing it with cargo loaded high in the bodies, we raise our center of gravity quite substantially. As a result of this we badly need more stability whether achieved by increased track and wider spring centers, sway bars or any other method.

With the increased spread between tare and gross we badly need further improvements in spring rate over the wide variation of possible loadings.

Similarly we need a more sensitive brake control over the same wide range, particularly when individual axles vary widely from others in the combination after partial unloading or in other similar situations.

We absolutely must have contact between brake shoes and drums closer to the time at which the brake pedal moves and lining

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What FLEETMEN Want...

leaving drums closer to the time at which the brake pedal is released.

We need much longer life in batteries and an electrical system considerably more dependable and trouble-free than those presently available.

We badly need ball bearings or some substitute therefore which will not be the first things to fail in such units as generators and transmissions.

We need a higher capacity parking brake.

We need more ease and accuracy of control and longer life, more dependable, more accurate instruments.

We need a tire carcass which can be recapped more times and tread which will give longer wear. It is important that tires be made more resistant to impact with rocks and other sharp objects.

We need a four-wheel-drive rear-axle assembly which is less sensitive to tire matching, yet does not sacrifice weight or traction to achieve this.

We need fans, compressors, fuel pumps, transmissions, tires and exhaust systems which create less objectionable noise.

We need engines which produce less objectionable smoke and fumes.

We need more loading space, possibly by equalizing front axle loadings with loadings on the others and mounting the engines under chassis somewhere.

We need to control the vehicle speed with the throttle but to have constant engine speed whenever the vehicle is in motion.

We certainly need better valves, better insulation, and better refrigeration.

We need uniformity in relative position of instruments, shift patterns, relative location of controls, etc., for safer driving of various vehicles in fleet by the same man.

We need closer liaison between truck and trailer manufacturers to secure combinations better engineered to be operated as they will be operated; as a unit.

Overall, we need a simplification of both driving and maintenance to reduce the amount of skill and experience required and to make errors difficult or less likely.

Accessibility

Sheet metal should be removable . . . instrument panels hinged . . . should have better brakes and stronger components for light trucks

S. G. PAGE

General Superintendent, Equitable Auto Co., Pittsburgh, Pa.

THE nature of a utility fleet is to be kept in mind in considering our comments on the truck of the future. 40% of the fleet are passenger cars and of the trucks 80% would be classed as light trucks, that is, vehicles between the ½-ton and 15,000 lb gross with a large number of the bodies of special design.

Accessibility, I think, is the leading item on our list for improvement. We would like to be able to remove sheet metal around the entire compartment. We believe that C.O.E. cabs should be removable. We would like to see instrument panels hinged and door panels constructed so that they could readily be removed for the servicing of locks and window controls.

Brakes are not adequate, particularly in the light-duty range. We believe if passenger car manufacturers are going to make trucks they should provide an option covering heavy-duty brakes. By this we mean adequate area and adequate cooling.

Gas tanks are a particular problem to utility fleets and generally require relocation to accommodate special body styles. Gas tanks wedged behind the back of the cab seat seem to be the most acceptable.

Bumpers are quite inadequate on most of the heavy-duty trucks. On trucks above 15,000 G.V.W. they should be useful instead of ornamental, rugged enough for the size of the vehicle, and the frame should extend far enough front for the tow hook mounting.

On the lighter and medium-duty vehicles, clutches and transmission should be designed to safely transmit full engine torque regardless of vehicle size. Radius rods would be standard equipment on all trucks over 15,000 G.V.W.

Utility companies who are large users of sedan delivery and panel type bodies have a particular problem from the emphasis which is placed upon styling. With the large increase of first cost of such vehicles it will be necessary to run these vehicles further and longer. Most of the mechanical problems can be solved fairly easy through adequate maintenance and unit replacement but frame sagging and body rust and fatigue, in many cases, will limit the life of the vehicle.

Closer Collaboration

. . . between truck manufacturer and fleet operator . . . need better mileage, automatic transmissions and much better accessories

O. A. BROUER

Head General Automotive Dept. Swift & Co., Chicago

THERE should be closer collaboration between the truck manufacturer and the fleet operator.

2. Develop improved fuel mileage. Strides are being made in this regard in the passenger car field, and undoubtedly carburetion and manifolding in truck engines can also be improved.

3. Investigate automatic transmission for trucks. There is a need for more easily manipulated transmission so drivers will use and avoid lugging engine.

4. Make improvements in accessibility for maintenance and repair standpoint, particularly under the hood. Some manufacturers have recently taken steps along this line, but there is more to be done. I have specific reference to Distributor, Generator, Starting motor, Fuel pump and Oil filter. Put room where it is needed and do not waste sheet steel in building up a massive appearance. "Looks" within reason is good, remember, it doesn't do any work.

5. Make available, either in factories, assembly plants or branches, auxiliary equipment to meet the user's requirements, such as:

(a) Flags, flares and fuses to meet ICC requirements, mounted in a suitable and readily accessible place on the "road" side of the truck or tractor.

(b) Suitable tool box large enough for hydraulic jack.

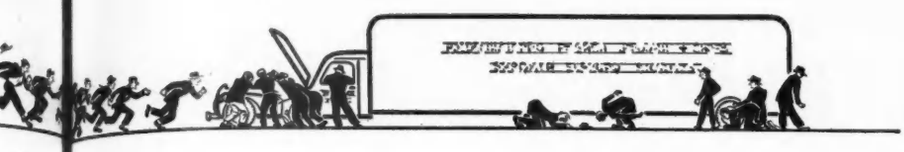
(c) Fire extinguisher mounted in suitable place within easy reach of driver.

(d) Front bumper grill and radiator guard.

(e) Undercoating on fenders to prevent rust and corrosion.

(f) Fifth wheel and pick-up plate (with frame cut off just back of rear spring hanger) mounted to meet requirements of customer.

6. Panel bodies of the type and design that can be altered to a certain extent, insulated or lined, etc., to meet the operator's requirements. Some truck manufacturers are doing this, but this is very limited. Some trailer manufacturers are doing a good job along this line and are completing the body in a local branch to the customer's specifications.



Must Win Acceptance

To win public acceptance, trucks must have safety, performance, quiet operation and no smoke . . . there is also need for better cabs

GAVIN LAURIE

Manager Automotive Division
The Atlantic Refinng Co.
Philadelphia

THE future growth of the trucking industry will, to a large degree, be dependent on its ability to win full public acceptance on our streets and highways. What constitutes "Public Acceptance"? It could be a function of safety, performance, utility factor, styling and appearance, quiet operation, absence of objectionable smoke and fumes, or any number of things.

It can be assumed that the power plant and running gear will receive the necessary attention by the builder to keep pace with latest developments. Those persons responsible for the enforcement of certain safety requirements can be counted on to continue their efforts along this line. Perhaps the manufacturer of the vehicle might also hear the clamor of the operator to consider accessibility to maintenance.

Safety of vehicle operation is a continuing problem involving both design and operation. In addition it is a subject matter involving constant attention to a large number of minor items together with those of major magnitude. As the workshop of the driver, the truck cab, very much neglected in the past must receive more attention and sound fundamental thinking. The importance of good all around vision from the cab, including rear vision, cannot be over-stressed. A good comfortable, adjustable and yet body supporting cab seat is a must, if fatigue of the driver is to be reduced. Location of instruments should be studied with the aim of avoiding as much as possible the driver's attention away from the road. The subject of the rather poor quality of truck hardware and instruments is mentioned here again, because that problem is still with us.

Exclusion of fumes and noise with better temperature control and fresh air circulation must receive its share of attention. Essentially, then, the subject of safety, so closely allied to public welfare, becomes a definite part of this Public Acceptance Program.

It is generally accepted that the truck driver is courteous, competent and a safe operator, a reputation won through hard work over a period of years by careful planning, driver selection and training. Now that we have passed the driver into the accepted class, the next move is to place the vehicle in the same category. This will require careful attention to those items mentioned earlier, and the job is not going to be done overnight.

An excellent place to inaugurate this public acceptance program would be for the manufacturer to devote some real thinking to the reduction of noise. By the same token, the truck operator could devote the necessary maintenance to the exhaust muffler until such time that a more durable and more effective muffling device is made available. The design of a durable and efficient exhaust muffling apparatus with low back pressure is not unsurmountable. It can and must be done, a resultant product comparable to the noise level of the passenger car. Its construction and materials must surpass the present article, otherwise it will degenerate to the status of its predecessor, frequent replacement or neglect by the operator.

The question of cost of such a muffler is rather relative, particularly when we consider the money and labor effort being spent now to keep this part of the vehicle in reasonable good condition.

Reduced Maintenance

If the many items which require inspection at 1000 miles could be made to last 2000, maintenance cost could be cut almost in half

H. L. WILLETT, JR.

Executive Vice President,
The Willett Co., Chicago

THE improvements we would like to see manufacturers make in the years to come are those which will reduce our maintenance costs. The easiest way to do that is to increase the time or mileage period between preventive maintenance inspections. We are, at present, inspecting the vehicles at 1000 miles or one-month periods, whichever comes first. We find that there are certain things which we have to do at this short period, as follows:

1. Lubrication. If we do not grease shackles, check transmissions, rear ends, etc., at this period we run into considerable trouble.

2. We have to service batteries, master cylinders, brakes, spark plugs, distributor points, fan belts, oil filters, axle flange studs, wheel lugs and generator bearings at 1000 miles.

We cannot extend our inspection period because we would run into trouble with any one or more of the above items.

There are many other operations which we perform in our preventive maintenance service such as tightening cylinder heads, cleaning gasoline filters, tightening "U" bolts, checking windshield wipers, wheel alignment. The period could be extended on this group to every 2000 miles.

If we could extend the life of the first group of items so that it was the same as the second group, we could cut our preventive maintenance cost exactly in half.

Our operation however, is such that trucks are stored in a number of outlying garages and serviced in a central garage.

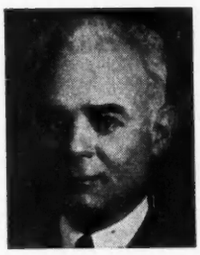
Let us assume, for example, that the cost for performing the preventive maintenance service is $7.50 and the cost of bringing the truck to and from the operating storage garage is $5. This makes a total of $12.50 for preventive maintenance or, on the basis of 1000 miles, 1¼ cents per mile. If the service period of the 1000 mile items could be changed to 2000 miles, we would then have to bring the vehicle in once every 2000 miles and the cost for this service would be $12.50 over 2000 or $.612 per mile, thereby cutting the "PM" cost in half.

Functional Design

Styling should be based on functional design and we can use better electrical systems, parking brakes, fuel pumps and oil coolers

WARREN A. TAUSSIG

Vice President & General Manager,
Burlington Truck Lines, Inc.,
Galesburg, Ill.



REGARDING the question of what fleet operators want in the way of motor truck improvements, it is my view that the following items are most important:

1. STYLING—Trucks should be built with less attention to decorative design and much more attention to functional design, particularly with the view of improving accessibility to the various functional parts. Lack of accessibility on many present designs is reflected in extremely high maintenance costs.

2. ELECTRICAL—Generators should be

(TURN TO NEXT PAGE, PLEASE)

What FLEETMEN Want...

(Continued from page 93)

constructed of larger capacity. They should have the ability of generating approximately 400 watts under continuous service. Many present so-called heavy-duty generators are only capable of producing 300 watts at intermediate periods. Generator regulators should be of sturdier design and should be able to hold their setting much better than at present. It seems to be a well proven fact that the electrical wiring used on present-day tractors is inadequate. Oversize conductors with more and sturdier insulation are required. The few dollars saved by using a conductor of only barely sufficient capacity, and the using of insulation that has only a fraction of the life of the truck usually results in high maintenance costs and in some cases disastrous fires.

3. CABS—Cabs should be designed to provide much better driver comfort and, of course, the entire vehicle should provide easier riding qualities than those provided at present. The cabs should be designed to accommodate the various accessories, such as flares, fuses, fire extinguisher, etc. that are required by law. Definite niches should be provided to accommodate these accessories. Cab doors should be provided with better seals so that they can retain heat in the winter time.

4. PARKING BRAKES — The present parking brakes are definitely inadequate to hold tractor semi-trailer units on any appreciable grade. More effective parking brakes can and must be designed.

5. FUEL PUMPS—One of the most frequent causes of road failures is malfunctioning of fuel pumps. Fuel pumps should be designed that will give uninterrupted service for a period equal to that of the engine overhaul.

6. OIL COOLER—All truck engines on the heavy-duty type should be equipped with an oil cooler, thereby materially increasing the interval between engine overhauls.

7. LUBRICATION—Much improvement can be made to improve the effectiveness and to simplify chassis lubrication systems.

8. GENERALITIES — It is, of course, understood that in general any change which will reduce the cost of operating a truck, or conversely will increase its payload is highly to be desired. Nothing is more important than to reduce the cost per ton-mile of moving payloads.

Little Things Count

i.e. improved crankcase ventilation . . . electrical systems . . . temperature controls . . . lubrications systems . . . and better accessibility

D. K. WILSON

Supt. Automotive Equipment, New York Power & Light Corp., Albany, N. Y.

WHAT do I, as a Public Utility fleet operator, want in the way of motor truck improvements in the years to come?

I am not particularly interested in radical, over-all changes in design and construction. I believe that the most needed improvements are in the all-important little things, often considered of minor importance. However, these same "little things" account for a large share of the dollars spent for truck operation and maintenance. The more outstanding ones are listed below:

1. Improved Crankcase Ventilation. Most utility trucks are merely mobile auxiliary power units, operating various devices through power takeoff. Conventional crankcase breathers are wholly inadequate in such operation.

2. Improved electrical systems. Faults in present-day electrical systems are responsible for more than one-third of all road calls.

3. Improved engine temperature control devices. Wider adaptation of the variable pitch fan, for example.

4. Central lubrication system. This suggestion needs no elaboration.

5. Greater accessibility for maintenance and overhaul operations. Rising maintenance costs make this a "must."

Need 600 Hp

70,000 lb vehicles need double today's power . . . and better control on long down grades . . . How about a one-shot greasing system?

ELLIS W. TEMPLIN

Automotive Engineer, Los Angeles Dept. of Water & Power

WE need a source of considerably more power intermittently on the grades when pulling trailers. This means 500 to 600 hp with gross loads around 70,000 lb.

a. To bring the speed of the truck and trailer in approximate agreement with the other traffic. For obvious safety reasons, obvious to any one who follows these trucks on the hills.

b. To provide the operator with higher average speeds without excess top speeds. For obvious economy reasons. Time is money.

We need a suitable means for checking or controlling the speed of trucks and trailers on long down grades.

Can't we outgrow the archaic greasing system we now use? Economic studies indicate that we can well afford to build in one-shot systems, and thereby eliminate most of the time spent on grease pits.

Maximum Ton Miles

Trucks must be functional . . . comfortable . . . have 20 mph on 5% grades . . . better transmissions and brakes . . . low pressure tires

JULIUS GAUSSOIN

President, Silver Eagle Co., Portland, Ore.

I CERTAINLY can't pass up the invitation to state what we would like in motor trucks for the future. I will keep my comments within the scope of our own operation. We are using six-wheel trucks and full four-wheel trailers hauling 72,000 pounds gross load.

The comments which I will make will also apply to the future, should we be granted greater gross loads. We are looking for the maximum number of ton miles per year per vehicle, with the greatest safety, and are hopeful of lower maintenance and easier handling trucks for the future.

We are now operating trucks on an average of 140,000 miles per year hauling a one-way load of bulk petroleum products of approximately 22 tons. This produces a yearly haul of 1,500,000 ton miles. If this were a two-way operation we could expect approximately 2,500,000 ton miles per year.

First, we want our trucks functional (in overalls) rather than aesthetic. Simple and durable hardware and sheet metal is easily maintained, kept clean and repainted without considerable delay in preparation for painting.

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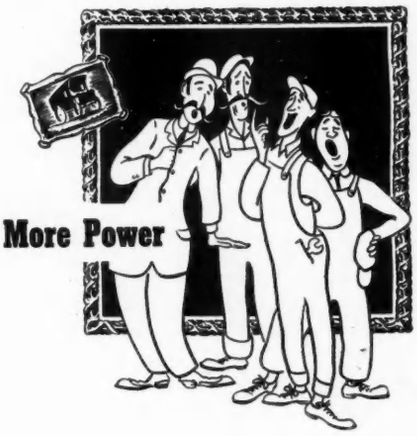
GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK



by ***FRED B. LAUTZENHISER***
Consulting Engineer, Motor Truck Division, International Harvester Co.

The Demand for More Power in Trucks

Present engines can meet new performance requirements but will the public be satisfied and will fleetmen pay the price?

AS I SEE THIS subject there are three important factors involved in the demand for more power in trucks. They are as follows:

A. Legislative performance ability requirements.

B. Liberalization of size and weight laws.

C. Economics of various gross loadings.

In its rather brief and superficial form, I believe the following digest presents a reasonably accurate picture because it represents the joint thinking of representatives of eight manufacturers of heavy duty motor trucks and of five manufacturers of heavy duty motor truck engines.

Preliminary to any discussion of the three factors listed above, I believe it is safe to state that manufacturers already have made available a wide range of overlapping engine sizes that in their necessarily functionalized selection, will provide ample power to meet the needs in general of these three factors.

Examination of Table I (page 96) will disclose all the various engine sizes as listed in the September issue of COMMERCIAL CAR JOURNAL, by piston displacement, with the corresponding gross vehicle weight ratings as established by the respective truck manufacturers.

It will be noted that there is a wide overlap in piston displacement for the various gross vehicle weight ratings, and these might be grouped together for consideration, as follows:

Panels, Pickups, Half and Three Quarter Ton—134 to 245 cu in.

12,000 to 16,000 lb GVW—226 to 320 cu in.

16,000 to 20,000 lb GVW—226 to 404 cu in.

20,000 to 25,000 lb GVW—310 to 529 cu in.

25,000 to 30,000 lb GVW—404 to 779 cu in.

30,000 to infinity (?) GVW—513 to 1,090 (plus?) cu in.

From Table I and the grouping immediately above it is readily seen that a powerplant of almost any size is already available for most any need, be it either actual or merely fanciful. Also it is interesting to note that in many cases the increase in displacements of these engines produced by various makers varies as little as 1, 2, 3, 4 and 5, etc., cu in., increases of but one cubic inch. This, of course, is the result of competition. There is indeed much food for thought contained in this table.

From examination of Table I, the thought now arises that for other than some few of the highly specialized off-highway operations, there is no particular economic need for new and larger engines, although without doubt there will be new ones introduced from time to time for purely competitive reasons.

It seems to me that there is a very definite problem however, of improving and refining the present engines so as to step up their power outputs and/or of reducing their weights; at any rate of increasing the ratio of horsepower per pound of engine weight.

ACKNOWLEDGMENTS

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White Motor Co., Robert Cass.
The Buda Co., H. G. Smith.
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International Harvester Co., P. T. Brantingham.
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Legislation Affects Requirements

OVER a period of years many impatient motorists have been complaining that trucks are too slow on

(TURN TO NEXT PAGE, PLEASE)

. . . More Power in Trucks

(Continued from Page 95)

Table I—Gross Vehicle Weights as Related to Piston Displacement in Standard Truck Models

(As listed in Truck Specifications Tables of Commercial Car Journal, Sept., 1948)

PISTON DISPLACEMENT CUBIC INCHES	GVW	GVW	GVW	GVW	GVW	GVW	TRUCK
134	4000	5300	6750	8200	.....	.....	Jeep Engine
170	4600	6100	7800	10000	.....	.....	Studebaker
213	4400	4600	5200	6650	7000	.....	International
216	4600	5800	7000	8000	10000	12500	Chevrolet
217	4850	5500	.....	.....	.....	.....	Dodge
221	9000	9200	.....	.....	.....	.....	Linn
226	4700	5700	6800	10000	12000	14000	Ford
	15000	15500	16000	.....	.....	.....	
230	6700	.....	.....	.....	.....	.....	Dodge 4 x 4
233	13500	.....	.....	.....	.....	.....	International
235	15000	16000	Chevrolet 26000 to 34000				Truckstell Conva'n
236	15000	.....	.....	.....	.....	.....	Dodge
239	4700	5700	6800	10000	12000	14000	Dodge, Ford
	15000	15500	16000	.....	.....	.....	
245	4460	4590	8000	12700	12900	14000	Federal, Linn, Reo
250	16500	16750	17000	17250	.....	.....	Dodge
251	14500	22000	.....	.....	.....	.....	International
263	15000	.....	.....	.....	.....	.....	Available
269	16500	.....	.....	.....	.....	.....	Internationa
281	18500	19000	.....	.....	.....	.....	Dodge
282	No Data	.....	.....	.....	.....	.....	Federal
288	15500	18000	.....	.....	.....	.....	Reo
310	20500	.....	.....	.....	.....	.....	Reo
320	15000	16500	17000	20000	22000	30000	Available, Federal, FWD, Duplex
330	18000	.....	.....	.....	.....	.....	Corbitt
331	21000	23000	.....	.....	.....	.....	Dodge
337	19000	21500	35000	.....	.....	.....	Ford, Marmon-Herrington
339	21000	.....	.....	.....	.....	.....	Biederman, Federal
361	20000	.....	.....	.....	.....	.....	International
371	22000	.....	.....	.....	.....	.....	Corbitt, Federal
401	22500	.....	.....	.....	.....	.....	International
404	18000	20000	23000	24000	25000	28000	Available, Duplex, FWD, Marmon-Herrington,
	32000	34000	36000	.....	.....	.....	Oshkosh, Sterling, Walter
427	22000	23000	25000	29000	47000	.....	Corbitt, Federal (No Data) Reo, Ward LaFrance
450	22500	37000	.....	.....	.....	.....	International
501	No Data	.....	.....	.....	.....	.....	Federal
513	25000	32000	35000	.....	.....	.....	Corbitt, Marmon-Herrington, LaFrance
517	30000	32000	38000	.....	.....	.....	Sterling, Walter
525	28000	29000	30000	40000	.....	.....	Available, Ward-LaFrance, Kenworth
529	2500	28000	30000	32000	48000	.....	Corbitt, Duplex, Oshkosh, Marmon-Herrington, Sterling
554	29000	32000	.....	.....	.....	.....	FWD, Ward LaFrance
558	28000	30000	37000	47000	.....	.....	Duplex, Oshkosh
586	27000	32000	.....	.....	.....	.....	International
602	29000	32000	.....	.....	.....	.....	Federal (No Data), Reo, Ward LaFrance
672	27000	28000	30000	32000	35000	38000	Available, Corbitt, Duplex,
	40000	41000	42000	43000	45000	54000	International, Kenworth,
	60000	65000	.....	.....	.....	.....	Sterling, Ward LaFrance
743	28000	.....	.....	.....	.....	.....	Corbitt
779	28000	32000	38800	40000	42000	44000	Available, FWD, Oshkosh,
	45000	52000	58000	60000	70000	80000	Sterling, Walter
844	44000	46000	54000	58000	60000	95000	FWD, Oshkosh
893	46000	60000	.....	.....	.....	.....	Oshkosh
1090	This engine is the Hall Scott 400 which most all producers of heavy-heavy trucks will furnish as optional, although none list it in CCJ as a standard equipment unit.						

NOTES PERTAINING TO TABLE I

Note (1) Although the Federal truck engine displacements are included in the above table, the corresponding GVW are not shown because they do not appear in the Commercial Car Journal listings.

Note (2) The above table does not include data on trucks built by six major manufacturers, Autocar, Brockway, Diamond T, GMC, Mack and White because their specifications do not appear in Commercial Car Journal listings

Note (3) The 1090 cu. in. displacement shown is of course that of the Hall Scott 400 series engine which is an optional engine for a number of makes of heavy duty trucks, principally six wheelers. It is used to power gross weights of trucks and combinations up to 76,000 lbs. or more on the highway and for grosses up to 150,000 lbs. and more on off highway jobs, such as heavy logging in the northwest, etc.

Note (4) With their 235 and 239 cubic inch engines, Chevrolet and Ford respectively, rate their trucks from 15,000 to 16,000 pounds gross. Truckstell, however, makes a six wheel conversion from these trucks and raises their GVW ratings to a range of from 26,000 to 34,000 lbs.

Note (5) The foregoing tabulation does not take into consideration the fact that many of the heavier classified GVW trucks are used as tractors with gross combination weights up to maximums permitted by State laws or of economics in off highway operation.

hills and are impeding the flow of automobile traffic.

At one time Rhode Island had a statute that required the fully loaded vehicle to be capable of climbing a 4 per cent grade (4 vertical ft in 100 ft of horizontal travel) at a speed of 20 mph. Very few heavy trucks and certainly no truck trailer combinations of that day with their accustomed loadings, could meet such a rigid requirement. The law was unenforceable, however, because there was no 4 per cent grade in the state available for testing the vehicle's ability.

A legislative bill was once proposed in California that required fully loaded trucks and combinations to be capable of climbing a 6 per cent grade at 30 mph. Fortunately the bill never became a law. Had it become law, all vehicles would have been ruled off the highways except automobiles, of course, and a comparatively few light panel and pickup trucks which are generally equal in performance to that of the automobile.

In 1947 the North Carolina legislature passed a bill providing that no vehicle or combination of vehicles of 40,000 lb or more gross weight, shall be licensed or permitted to use the state highways unless powered by an engine with 300 cu in. or more piston displacement.

In 1948 Mississippi enacted a law providing that no fully loaded vehicle shall be driven at a speed less than 30 mph on Federal designated highways where no hazard exists. The law also requires all vehicles operated outside of business and residence districts to have motive power sufficient to propel the motor vehicle at a reasonable speed. Such a law is bad; it leaves the truck operator at the mercy of the enforcement officer and subject to his personal opinion of just what constitutes a hazard or a reasonable speed.

A subcommittee of the National Committee of Uniform Traffic Laws and Ordinances, sparked by the AAA boys, submitted for study by the parent committee, a restriction of a 375 lb gross-weight-ratio per each net brake horsepower developed by the engine. It further amplified this with a requirement that the fully loaded vehicle or combination of vehicles be capable of climbing a 3 per cent grade at a speed of 20 mph. The two requirements considered jointly are not altogether compatible from a sound engineering standpoint. If the 375 lb gross-weight-per-horsepower requirement were met, a very severe but general level of performance would be provided, of course, but the 3 per cent grade at 20 mph might not be attainable. Conversely, if the vehicle were geared to meet a 3 per cent grade at 20 mph requirement, the general overall performance of the vehicle might suffer unreasonably. It should also be mentioned that other members of the NCUTLO subcommittee, including representatives of

both manufacturers and operators of motor trucks, were generally in agreement that if a performance requirement were to be included in the Uniform Code, it should be no more severe than a 400 lb ratio per net horsepower. Assuming the optimum relation of engine output to gear reduction and tire size, this ratio of 400 to 1 is convertible to a grade climbing ability of 3 per cent at 20 mph. The proposed reduction of the ratio to 375 to 1, by conversion to grade and speed, would provide but a negligible improvement in performance, actually but one third of one per cent of grade at the same speed. But while no appreciable improvement would have been accomplished, a very deleterious effect would have been imposed upon the economics of the vehicle. Either a more powerful engine would be required or the gross weight (payload) would have to be reduced or both. In either event the operation cost would be increased probably 10 per cent or more and likewise the cost of commodity transportation would increase to the general public.

Public Can't Be Satisfied

THERE is unquestionably a rising public resentment against the slow speeds of trucks on hills, but the answer is not simply a matter of installing larger and more powerful engines. *Even if the power plant were doubled, the present 2 to 4 miles per hour now attained on some steep hills, might only be increased to 6 or 8,* and this comparatively trivial improvement would not satisfy the impatient automobile driver.

There are only four methods by which the impatient motorist might be satisfied, as I see the subject:

(a) By oversizing truck powerplants and at the same time reducing gross weights.

(b) By eliminating trucks from the highways, entirely.

(c) By eliminating grades.

(d) By construction of truck lanes on steep grades.

The vital importance of highway transportation at reasonable rates, to the economic life of the country will not permit of much tampering with (a) above, and certainly cannot entertain a thought of (b). (c) and (d) do provide at least a partial answer, but would cost the mountainous

(TURN TO PAGE 274, PLEASE)

Table II—Pounds of Gross Vehicle Weight Which One Horsepower (Net) Will Pull Up Various Grades at Various Speeds

Grade %	SPEED — MILES PER HOUR															
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
0.1																
0.2												998	962	927	895	865
0.3	MORE THAN 1000 LB.										964	928	893	861	832	804
0.4									978	938	900	865	834	804	777	750
0.5							1000	958	917	879	844	810	781	753	728	702
0.6						993	947	903	863	827	795	764	736	710	685	662
0.7					988	937	894	853	817	782	750	722	695	670	648	625
0.8				987	935	890	847	808	773	741	711	683	658	635	612	593
0.9			993	936	889	843	803	766	733	702	674	648	625	602	581	561
1.0		1000	945	890	845	802	765	730	698	669	642	617	594	573	553	535
1.1	978	959	903	854	808	768	730	697	667	639	613	590	567	548	529	511
1.2	937	917	862	813	772	732	697	665	638	611	586	562	542	522	504	488
1.3	900	878	827	782	740	702	670	639	611	586	562	540	521	502	484	469
1.4	767	844	795	750	710	675	643	613	587	563	540	519	500	482	465	450
1.5	833	812	764	722	684	650	619	591	565	542	520	500	481	463	448	433
1.6	803	781	736	694	658	625	595	568	543	521	500	481	462	446	431	410
1.7	776	754	709	670	634	602	573	547	524	502	482	463	446	430	416	401
1.8	750	727	685	647	612	581	554	529	506	484	465	447	431	416	401	388
1.9	727	703	662	625	592	562	536	511	488	468	450	432	416	401	387	375
2.0	703	681	641	606	573	544	519	495	473	453	435	419	403	389	375	363
2.1	680	659	620	586	555	527	502	479	458	439	422	406	390	377	364	352
2.2	661	639	600	567	537	511	486	465	444	425	409	393	378	366	352	341
2.3	642	620	584	551	523	496	473	452	432	414	397	382	368	355	342	331
2.4	625	601	566	535	507	482	459	438	419	401	386	371	357	345	332	322
2.5	608	585	552	520	494	469	446	426	407	391	375	361	348	335	323	312
2.6	591	570	536	507	480	456	434	415	397	380	365	351	338	326	314	304
2.7	576	555	522	493	467	444	423	404	386	370	356	342	329	317	306	296
2.8	561	540	508	480	455	432	412	394	376	360	346	333	320	309	298	288
2.9	548	527	495	468	443	421	401	383	367	351	337	324	312	301	291	281
3.0	535	514	484	457	433	411	392	374	358	343	329	317	304	294	283	274
3.1	523	503	472	446	422	400	382	365	349	334	321	309	297	287	277	268
3.2	511	490	462	436	413	392	374	357	341	327	314	302	290	280	271	262
3.3	500	479	451	425	404	383	365	348	333	319	307	295	284	274	264	256
3.4	489	468	441	416	395	375	357	341	326	312	300	288	277	267	258	250
3.5	478	457	431	407	386	366	349	333	319	305	293	282	272	262	253	244
3.6	468	449	422	399	378	359	342	326	312	299	287	276	266	257	248	239
3.7	458	439	413	390	370	351	334	319	305	292	281	270	260	251	242	234
3.8	450	430	405	382	362	344	327	313	299	287	275	265	255	246	237	229
3.9	441	422	397	375	355	337	321	307	293	281	270	260	250	241	233	225
4.0	432	413	389	367	348	330	315	300	287	275	264	254	245	236	228	221
4.1	424	405	381	360	341	324	309	294	282	270	259	249	240	231	223	216
4.2	416	397	374	353	335	318	303	289	276	265	254	244	236	227	219	212
4.3	409	390	367	347	328	312	297	284	272	260	250	240	231	223	215	208
4.4	401	383	361	341	323	307	292	279	267	255	245	236	227	219	211	204
4.5	394	376	354	335	317	301	287	274	262	251	241	232	223	215	208	200
4.6	387	370	348	328	311	295	282	269	257	246	237	227	219	211	204	
4.7	381	363	342	323	306	290	277	264	253	242	232	223	217	207	201	
4.8	375	357	336	318	300	286	272	260	248	238	228	220	212	204		
4.9	369	351	331	312	295	281	268	255	244	234	224	216	208	200		
5.0	363	346	325	307	291	276	263	251	240	231	221	213	205			
5.1	357	340	320	302	286	272	259	247	236	226	218	209	202			
5.2	351	335	315	298	282	268	255	244	233	223	214	206				
5.3	346	330	310	293	277	264	251	240	229	220	211	203				
5.4	341	325	305	289	273	260	247	236	226	216	208	200				
5.5	336	320	301	284	269	256	244	233	223	213	205					
5.6	331	315	296	280	265	252	240	229	219	210	202					
5.7	326	310	292	276	261	248	236	226	216	207						
5.8	321	306	288	272	257	244	233	223	213	204						
5.9	317	301	283	268	254	241	229	219	210	200						
6.0	312	297	280	264	250	238	226	216	207							
6.1	308	293	275	260	246	234	223	213	204							
6.2	304	289	272	257	243	231	220	210	201							
6.3	300	285	268	254	240	228	217	207								
6.4	296	281	264	250	237	225	214	204								
6.5	292	278	261	247	234	222	211	202								
6.6	288	274	258	244	230	219	209									
6.7	284	270	254	240	227	216	206									
6.8	281	266	251	237	224	213	203									
6.9	278	263	248	234	221	211	201									
7.0	274	260	245	231	219	208										
7.1	271	257	242	228	216	206										
7.2	267	254	239	226	214	203										
7.3	264	251	236	223	211	201										
7.4	263	248	233	221	209											
7.5	259	245	231	218	207											
7.6	256	242	228	216	204											
7.7	253	240	226	214	202											
7.8	250	237	223	211												
7.9	248	234	220	208												
8.0	245	232	218	206												
8.1	242	229	216	204												
8.2	239	227	214	202												
8.3	236	224	211													
8.4	234	222	209													
8.5	232	220	207													
8.6	230	218	204													
8.7	227	215	202													
8.8	225	213	200													
8.9	223	211														
9.0	220	209														
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9.8	204															
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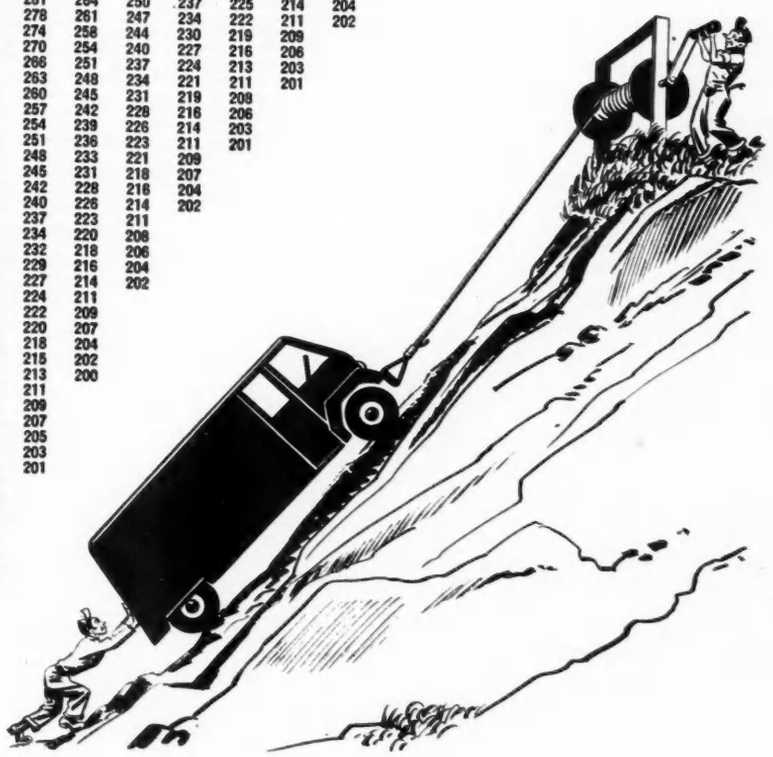
10.0	201															

LESS THAN 200 LB.



GOLDEN JUBILEE
OF THE
AMERICAN MOTOR TRUCK

Legislative Outlook

Arthur Butler

by ARTHUR C. BUTLER

Director of

THE MOST IMPORTANT series of legislative meetings since the war are ahead for highway users in 1949. Legislatures of 44 states will meet in regular session, and their agenda includes a host of bills highly significant to highway transportation.

Highway user tax increases are due to be considered by not *less* than 29 states, while 21 states will be asked to set up plans for "programmed progress" in the field of highway development and financing.

Toll Road Epidemic

AN ominous cloud on the horizon for highway users in many states is an epidemic of toll road promotion that is expected to be incorporated into proposed legislation. New Jersey's legislature, during the session just ended, has already passed legislation for a toll road authority. How many other states will get such bills cannot be predicted accurately as yet, but Ohio will be one. Hundreds of highway user organizations have declared their opposition to this threat to the nation's free road system.

This is a serious problem and if something is not done about it, we will look around some day in the not too distant future and find that we have duplicate facilities as well as duplicate costs imposed on the motor vehicle owner.

Anti-Diversion Amendments

BY the time 1949 legislatures meet, Massachusetts may be added to the list of 20 states having constitutional amendments directed against diversion of highway user taxes to non-highway purposes. Massachusetts votes on its amendment in the November general election. Tennessee, which was expected to hold its referendum this year, probably will vote on a Good Roads amendment in 1950. Other amendments are due to be introduced in 11 states during the 1949 sessions.

More States Favor ASSHO Code

ESPECIALLY interesting to the fleet owner will be much proposed 1949 legislation to bring state size and weight laws into closer conformity with the recommendations of the American Association of State Highway Officials. The majority of States which have not voted such liberalizations are expected to consider them.

Another group of legisation of interest to all highway users would bring many state motor vehicle laws into more harmony with the Uniform Code, particularly Act V which includes the "rules of the road." Some

★ Reports of NHUC Regional Representatives

David McQuaid

MAINE . . . . VERMONT

HIGHWAY users throughout this territory (Maine, New Hampshire, Vermont, Massachusetts and Rhode Island) will center their attention on long-range highway planning and uniform motor vehicle laws at the 1949 legislative sessions.

In two of these states—Maine and

for 1949

44 State legislatures will meet . . . Highway users face toll road epidemic . . . But majority of proposals will be in their favor . . . An analysis by National and Regional Highway Users Conference Directors

National Highway Users Conference

28 states are due to consider such legislation. Highway user groups in the majority of states are making a comparison of their motor vehicle laws and "Act V." These comparisons have been completed in Arizona, Idaho, Illinois, Iowa, Michigan and Wisconsin. In other states, the work of comparison will be expedited through a project sponsored by member groups of the National Highway Users Conference. Under this project, states have been furnished with a Uniform Code "workbook," prepared by N.H.U.C., which simplifies the work of comparing provisions of state law with provisions of state law with provisions of the Uniform Code.

Programmed Highway Progress

THE many proposals for tax increases on highway users during the coming sessions lay considerable stress on the importance of plans for programmed highway progress in many of the same states. Highway user groups throughout the country have been increasingly active in behalf of sound, long-range planning to meet the public's highway needs. In most cases, they feel this planning along with correcting fiscal abuses and administrative faults must precede tax increases, if all available money is to be spent wisely and to full advantage. Such planning under legislative auspices, will show whether new revenues are needed at all.

Legislation for this "programmed progress" will be urged in Alabama, Colorado, Idaho, Illinois, Indiana, Maine, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, West Virginia and Wyoming. All but 10 of these states—the exceptions include Colorado, Maine, Maryland, New Hampshire, New Mexico, North and South Carolina, North Dakota, Rhode Island, and Wyoming —are confronted with demands for increases in highway user taxes.

Other states due to get tax-increase proposals include Arkansas, Connecticut, Delaware, Iowa, Kansas, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Utah, Washington and Wisconsin.

The "Good Roads" amendments to halt diversion are expected to be introduced in Arizona, Connecticut, Delaware, Georgia, Illinois, Indiana, Maryland, Montana, New Mexico, South Carolina, and Wyoming.

Those states where Uniform Laws legislation is expected are Alabama, Arizona, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New Mexico, New York, North Carolina, Oklahoma, Pennsylvania, South Carolina, South Dakota, Vermont, West Virginia and Wisconsin.

NEW HAMPSHIRE . . . . MASSACHUSETTS . . . . RHODE ISLAND

by DAVID F. McQUAID

New Hampshire — long-range highway plans of 5 to 10-year duration will be submitted to the legislatures by the State Highway Departments. Efforts of highway user groups resulted in the adoption by the 1947 Maine legislature of a bill requiring submission of a 5 to 10-year plan at the 1949 session by the State Highway Commission. In New Hampshire, it is understood a similar plan will be presented by the State Highway Department although there was no mandatory legislation in the Granite State. In both of these states, committees representing the State Highway User Conferences have been in close touch with officials of the Highway Departments concerning the scope and cost of these long-range plans.

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Legislative Outlook for 1949

(Continued from page 99)

In Massachusetts, the $677 million 10-year long-range highway plan was submitted to the 1948 legislature but was defeated. (A $100 million bond issue recommended by administration leaders as the "first bite" at the state-wide plan was defeated by the Democratic minority in the Senate during the closing hours of the session.) Undoubtedly, this will be revived in 1949. Since the Massachusetts Highway Fund totals approximately $35 million annually, it seems apparent that the cost of the plan will have to be trimmed substantially or it will have to be extended over a longer period of time. Highway users of the Bay State are also taking an active interest in this matter.

CONNECTICUT . . . . NEW JERSEY . . . . NEW YORK *by WILLIAM F. DUFFY*

William Duffy

AN attempt will be made in Connecticut to secure legislative approval of a constitutional amendment to prohibit the diversion of highway user revenue. It is probable that bills will be introduced to increase the gasoline tax another cent. The additional revenue will be used for highway construction and maintenance. There is a possibility that a measure to increase the weight of tandem axle tractor-semi-trailers also will be presented.

New Jersey Toll Road

The recently created Turnpike Authority in New Jersey probably will construct a toll road from the Pennsville Ferry to the George Washington Bridge in northern New Jersey. Inasmuch as the Soldiers Bonus issue has not been settled, it seems probable that it will be considered further by the 1949 legislature. An attempt to finance the bonus through an increase in the gasoline tax may be repeated. Pro-

PENNSYLVANIA . . . . DELAWARE . . . .MARYLAND . . . . WEST VIRGINIA . . . .

Edmund Pusey

DELAWARE lawmakers will be asked by some or all highway user organizations to enact legislation to bring about the following:

1. Bring traffic and motor vehicle laws more in conformity with the Uniform Code.
2. A constitutional amendment to prevent the use of highway revenues for non-highway purposes.
3. Reestablish the Highway Fund. (Proceeds from registration fees and gasoline taxes now go into the General Fund and thereby lose their identity.)
4. Clarification of inconsistencies existing in present weight limits.
5. A 50 per cent reduction in registration fees for trucks used chiefly on farms.
6. A financial responsibility law to conform with Uniform Code.

The Administration is expected to propose an increase in the gasoline tax.

7-Point Maryland Program

Maryland highway user organizations in 1949 will ask the legislature for the following:

1—A sound long-range highway plan with user representation in the formulation thereof.

2—Amendment of traffic and motor vehicle laws to conform with the Uniform Code.

3—A constitutional amendment to prevent highway user taxes being used for non-highway purposes.

4—An equitable disposition of highway funds to political subdivisions.

5—Clarification of inconsistencies existing in present weight limits and registration fees.

6—A broader and more constructive educational highway safety program.

7—Tighter control to abolish possible abuse of tax refunds on gasoline not consumed on highways.

Penna. to Ask 62,000 Lb.

Pennsylvania user groups will ask:

1. Sound long-range highway planning and their participation in the formulation thereof.
2. Traffic and motor vehicle laws are expected to be brought more in conformity with the Uniform Code.
3. User groups will ask a more constructive educational highway safety program.
4. Clarification of and justification for present methods of allocating highway funds to political subdivisions.
5. Efforts will be made to have fines for overweight trucks placed in the Motor Vehicle Fund, instead of going to local municipalities.
6. Truck operators will ask that length of single units be increased from 33 to 35 feet and gross weight of tractor-semi-trailers increased from 45,000 to 62,000 pounds, with a sufficient number of axles.
7. Farm groups will request a tax

In Rhode Island, several meetings of highway user representatives have been held recently looking toward joint sponsorship of a state-wide long-range highway plan for this state at the next legislative session.

Vermont, the first state to espouse long-range highway planning more than a decade ago, has revived and modernized its famous 10-year plan that had to be held in abeyance during the war years. Highway users of Vermont are keeping in close touch with that situation and will be active at the 1949 legislative session.

Committees of State Highway User Conferences of Maine, New Hampshire, Vermont and Massachusetts have been appointed and are working to bring about conformity of the state motor vehicle laws with the Uniform Code. A similar committee is expected in Rhode Island.

All the New England states, except New Hampshire, permit a gross weight for tractor-semi-trailers of 50,000 pounds. New Hampshire which permits 47,500 pounds is expected to increase its maximum 2500 pounds at the next session.

posals are expected to amend size and weight limits and to impose axle weights. The New Jersey Highway Users Conference has gone on record in favor of creation of a state interim Highway Planning Commission and a bill to effectuate this plan will be introduced.

Higher Taxes in New York

In New York new and recurring demands for government aid and services undoubtedly will necessitate legislation for increased taxation. Proposals for increases in the gasoline tax either for specific or general purposes are expected. In this state there is increasing discontent with the progress of highway construction. Inadequacy of the highway program probably will generate proposals along the following lines:

1—Demands for increased state aid for county and town highways.

2—Creation of an Interim Highway Planning Commission.

3—Creation of a separate highway fund.

Bills will be introduced to bring New York laws in conformity with Act V of the Uniform Code. Compulsory motor vehicle inspection has been the subject of intensive study by a joint legislative committee during the past year. This may be enacted into law at the coming legislative session.

by EDMUND C. PUSEY

refund for gasoline consumed on the farm.

8. Roadside zoning may be proposed.
9. The administration may propose any of the following:
   (a) An increase in driver license fees.
   (b) A special license for drivers of different types of vehicles.
   (c) An increase in gasoline tax.

W. Va. Proposals

West Virginia proposals for legislation by highway user interests during 1949 probably will include the following:

1. That the state have a sound long-range highway plan with user groups participating in its formulation.
2. Amendment of traffic and motor vehicle laws in conformity with the Uniform Code.
3. Clarification of existing laws governing reciprocity for non-resident trucks.
4. A change to some basis of registering trucks other than the manufacturers' rated capacity.
5. Initiation of constitutional action to liquidate systematically the $50,000,000 Revolving Highway Bond Fund.
6. A more constructive educational highway safety program.

Proposals for an increase in the gasoline tax would not be surprising.

CAROLINAS . . . . GEORGIA . . . . FLORIDA . . . . *by WILLIAM L. KINNEY*

William Kinney

IN the states of Florida, Georgia, North Carolina and South Carolina, there are definite efforts to obtain, and some support for, additional revenue for city streets in the highway system and for farm-to-market roads. There is also a threat of increased motor vehicle taxes, particularly where diversion is practised.

Florida Mileage Tax

In Florida, an effort will be made to override the talked-of veto of the Governor of a bill to reduce the mileage tax on for-hire carriers. A bill to create a long-range highway planning committee will be introduced again in 1949 and farmers will make another attempt to obtain a refund of the tax on gasoline not used on highways. The Governor-elect has promised approval of necessary legislation to remove livestock from the highways. A proposed constitutional amendment that would permit existing diversion of highway funds will

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Legislative Outlook for 1949

(Continued from page 101)

be voted on in that state. Some highway user groups are not supporting this proposal. In this state, there is considerable support for a revision of the motor carrier regulatory laws and this will include a comparison of the motor vehicle laws with the Uniform Code. The financial responsibility law passed by the last session also may be amended.

Georgia Highway Board

In Georgia, there is considerable support for changing the administration of the Highway Department. A constitutional highway board will be proposed as well as a constitutional amendment to prohibit diversion of highway funds and a long-range highway program, with adequate provisions to cover activities of the Highway Department. Several highway user groups favor the enactment of a financial responsibility law in conformity with the Uniform Code. The Attorney General of Georgia is making a comparison of the state motor vehicle laws with Act V of the Uniform Code and will recommend needed changes. An effort will be made to place the personnel of the State Highway Patrol under a Civil Service system.

Diversion in Carolinas

Much progress was made in North Carolina in 1947. The "Contingent Diversion" clause of the present Revenue Act was repealed and several changes were made in the motor vehicle laws to make them conform more closely to the Uniform Code. However, a comparative study of Act V of the Uniform Code with existing laws is being made to measure progress and to indicate other necessary changes. User groups of this state believe that an anti-diversion amendment will have a much better chance of enactment than it would in 1947. There appears to be some sentiment for the revision of motor vehicle inspection and financial responsibility laws passed during the last session. Municipalities are requesting increased expenditures on city streets by the Highway Department. A long-range highway study committee will be recommended.

In South Carolina, the 1948 legislature liberalized size and weight limits to conform more closely to the AASHO recommendations and no additional size and weight bills are expected in 1949. An anti-diversion constitutional amendment probably will be introduced. Municipalities will continue their efforts to obtain a larger share of highway user revenue. In this state there is also considerable support for reenactment of a motor vehicle inspection law. A comparative study of existing statutes with Act V of the Uniform Code is being made and needed changes will be recommended. Sentiment is also growing in favor of a long-range highway study committee.

ALABAMA . . . . TENNESSEE . . . . *by* JOHN C. SANDIDGE

John Sandidge

IN Alabama, it is expected that Governor Folsom will renew demands for adoption of his $100 million road program. He proposed to finance it by increasing the gasoline tax and by issuance of $40 million in bonds. Strong resistance to this plan will come from various highway user groups. They will sponsor legislation to create a commission for long-range highway planning. It is expected that substantial parts of the Uniform Code may be adopted.

The Anti-diversion amendment in Tennessee will not appear on the November ballot because of a legal technicality. It is possible that either of the two gubernatorial candidates might be tempted to levy additional taxes on highway users for purposes not related to roads. A soldier bonus and additional old age assistance have been mentioned by both.

There will be no regular sessions in Kentucky, Louisiana and Mississippi in 1949. It is possible that a special session may be called in Mississippi to consider a gasoline tax increase to finance a secondary road program. This is dependent on a report to be submitted later this year by the Legislative Highway Planning Committee in that state.

ILLINOIS . . . . INDIANA . . . . OHIO . . . . MICHIGAN . . . . WISCONSIN

by HAROLD GRAY

Harold Gray

THE 1949 legislatures in the Great Lakes area will consider a great number of bills affecting highway transportation. At the present time, it seems assured that legislation will be introduced as follows:

IN ILLINOIS some of the bills expected are:

1—Increased motor fuel taxes and registration fees on trucks and buses.

2—Appropriations from general fund to secondary roads.

3—Reimburse highway fund for past diversions.

4—Allocate to highways that portion of sales tax revenue obtained from automotive and petroleum products.

5—Period inspection for passenger vehicles.

6—Amendment of freeway law.

7—Reduction of oil inspection fee.

8—Amendment of certificate of title law to require all liens to be

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GOLDEN JUBILEE
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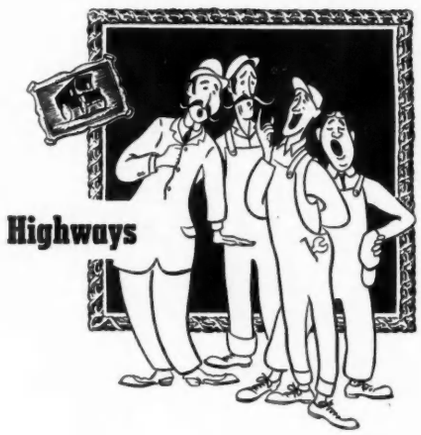

HIGHWAYS

PAST • PRESENT • FUTURE

Better—not more—mileage is blueprinted by builders in light of 3,000,000 miles of existing rural roads

by ***KARL RANNELLS,*** CCJ Washington News Bureau

BETTER—not more—mileage is on the blueprints for the Highway of Tomorrow as charted by the road builders.

The nation's 16,000 incorporated places, towns and cities are already linked together by a network of a little better than 3,000,000 miles of rural road—plus a quarter-million miles of streets and alleys in urban areas. This is generally regarded as sufficient for foreseeable needs if it is put into proper condition to handle modern traffic.

Mileage saturation was reached a quarter-century ago when the nation's total passed the three-million mark. Less than 25,000 miles of rural roads have been added to the network since 1921. Expenditures since that date have gone largely for maintenance and improvement.

Looking into the future, improvement trends are toward straighter, better graded, better surfaced, better located highways. There will be more limited access and express routes, more four-to-six dual lane highways, and fewer grade crossings.

Keeping an eye on the increased demands of overland freight requirements, roadbuilders are verring away from the idea of completely by-passing business centers and entire towns. After all, cargoes must be picked up and delivered. Whenever expedient, through routes will be relocated so as to pass through urban areas *but will parallel* the main arteries leading to and from business sections.

$5 Billion Backlog

PROGRESS toward the New Look has, of necessity, been slow. Wartime limitations and postwar shortages of labor and materials have created a backlog of more than $5 billion worth of ready-to-go projects. The American Roadbuilders Association estimates that

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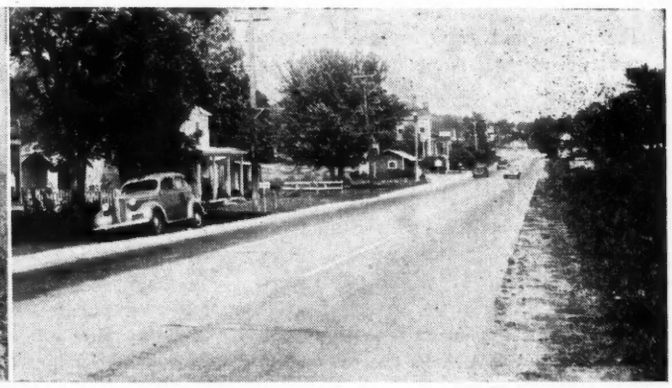
The main highway between Washington and Richmond (now U. S. No. 1) looked this way at Dumfries in 1919

1919 • •

• • 1939



Same section (note buildings) as it looked in 1939—one way only. Traffic in opposite direction by-passed town

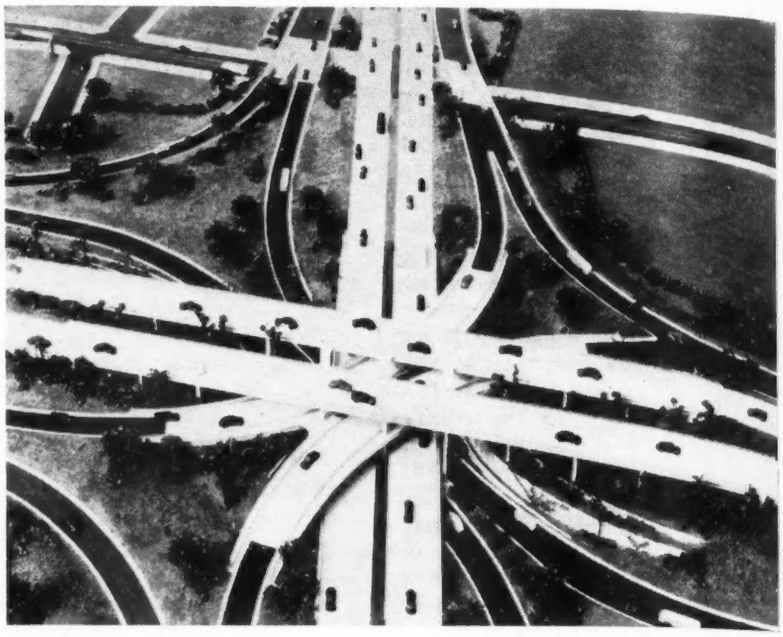
HIGHWAYS . . .

(Continued from Page 103)

it would take an addition $15 billion to put the highways into proper condition to meet even present needs.

Completed plans are currently being put into effect at the rate of nearly $1.5 billion annually. About $915 million was spent on roadwork during the first eight months of 1948. While this is about 20 per cent more than was spent during the same period last year, higher costs of labor and materials have held the physical gain down to less than 15 per cent.

Naturally enough, highway progress closely parallels the half-century of automotive development—even though it was bicyclists who first demanded smooth surfacing. With the passenger car came expansion of bituminous and macadam surfacing but the rise of the trucking industry was largely responsible for development and laying of hard and other high-type paving.



1950 • • ***This is a model of four-level structure at intersection of Hollywood Forest and Arroyo-Seco freeways near downtown section of Los Angeles. Construction started July 1, 1947***

First Federal Road in 1806

ROAD progress was slow throughout the last century. Some states began giving increased attention to their road systems about 1800 and the federal government began building the old National Road (now Route 40) in 1806. The latter was usable as far West as the Ohio by 1820.

Ten years later, however, public fancy was captured by a new development—the railroad. Before long, it was regarded as the up-and-coming method of long distance transport. As a result, for the remainder of the century, the nation's resources were directed toward track-laying rather than road-building; although highway mileage continued to grow, this period saw little change in construction methods.

A new era was to begin for highways shortly after the turn of the century—starting about 10 years after Duryea first successfully operated his horseless carriage.

Prior to that time, macadam and gravel or crushed stone comprised the major types of surfacing; both were entirely satisfactory for horsedrawn traffic. But by 1904, the new invention, the automobile, was beginning to catch on; in that year, registration of motor-powered vehicles reached the amazing figure of 55,000—including a still newer type, the truck, of which 400 were licensed.

As motorists ventured farther and farther from city streets, the prevailing road surfaces proved far from adequate. The rubber tires rapidly sucked the dust binders from the roads and engineers began looking for tougher surfacing.

Although concrete made its appearance as a road paving as early as 1893, the known mileage in use by the end of 1908 was about five miles. Next year, four more miles were laid and 20 miles were constructed in 1910. Two years later concrete paving took a big jump with construction of 250 miles in 1912.

Brick and bituminous paving were also expanding their mileages. By 1924, there were about 31,000 miles of concrete highways, 9700 miles of bituminous concrete, and more than 4300 miles of brick paving.

Truck and bus registrations have now passed the two million mark and were making heavier demands on road systems. Over the next six years, total motor vehicle registrations rose to 26.6 million of which 3.5 million were for trucks and buses.

Although the mileage saturation point had been reached nearly ten years previously, by 1930 no more than 700,000 of the nation's three million miles of roads could be regarded as surfaced. Less than 125,000 had what is termed high-type paving.

Also, until after World War I, road standards were still measured largely by horse-and-buggy standards. A road width of 10 feet was regarded generally as good, and of 16 feet, excellent; a culvert capable of bearing a load of five-to-eight tons was considered sufficient. Moreover, as late as 1918, most states still imposed speed limits of 30 mph or less and only one permitted 40 mph.

The net result was that still another highway era had begun—one of improvement and modernization.

Figures as to how much has been spent on highways over the past quarter-century are not too specific. It is fairly clear that the annual expenditure of perhaps $300 million of the World War I period had increased to around $1.5 billion by 1930. During the intensified improvement period over the following 10 years, about $19 billion was spent (including streets). This includes about $4 billion spent with WPA in made work which admittedly did little more than provide jobs insofar as benefit to national and state highways were concerned.

Appraisal of the Need

IN looking ahead, it is best to first glance at the present. Total motor vehicle registrations in 1947 had reached 37,330,000, including 6,660,000 trucks and buses. Final tabulations for 1948 are conservatively expected to show a 10 per cent increase for the year since car scrapping is still at a minimum.

In 1946, first year after the war, the average family jalopy traveled about 10,000 miles. This average will rise steadily.

As for the average bus, it traveled 42,500 miles for the same year. Average mileage may well be expected to grow in view of increasing abandon-

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FLEET OPERATORS' EXPERIENCE HANDBOOK

Part 1

Preparation of Vehicles for REFINISHING

Practices employed by the majority of fleets in cleaning, removing old finish and body parts, repairing dents, and other operations

Analysis by **A. W. GREENE,** Managing Editor, Commercial Car Journal

THIS PART OF THE VEHICLE REFINISHING STUDY embraces two groups of fleets—those who do all their vehicle refinishing and those who send this work out *but who give the paint shops partial or complete instructions as to how the work should be done.*

It is important that this be understood because certain averages shown in the accompanying tables are lower for the combined groups than they would be for the group that does its own refinishing.

Fig. 1 shows that 78.26 per cent of the fleets participating in this survey do their own vehicle refinishing; the other fleets send this work out. The total of the fleets covered in this study is 207, or 90 per cent of all fleets participating in the Appearance Maintenance Survey.

It was decided to combine the two groups because, on the majority of the operations involved, there was a great similarity, and the lower percentages on the remaining operations did not seriously affect the net result of the combined groups. Comments on the individual tables will show where most of the discrepancies lie.

Cleaning

THE first step in the preparation of a vehicle for refinishing is cleaning. Table 2 shows that the majority of fleets steam-clean their vehicles. A few of these fleets even use a detergent. The other fleets also use a detergent but with hot or cold water—mostly because no steam is available. The same factor is involved where fleets use city pressure rather than high pressure.

It will be noticed that the total of percentages in this table exceeds 100. The difference exists in the cold and hot water washing columns. Some fleets use hot water when the weather is cold, and cold water in the summer.

Majority of Fleets Refinish Vehicles Completely

Q. "To what extent do you refinish your vehicles?"
A. 78.26% fleets completely refinish their vehicles; 13.04% spot and touch-up only:

Table 1

VOCATIONAL GROUPS	Total Number of Fleets Reporting	Refinish Vehicles Completely — — (Per Cent)	Spot and Touch-up Only — — (Per Cent)	Send Out All Repainting — — (Per Cent)
COMMON CARRIER				
Local and Over-the-Road	38	86.84	10.53	2.63
FOOD DISTRIBUTION				
Bakeries, Dairies, Meats and Other Food Products	45	68.89	20.00	11.11
GOVERNMENT				
State, County, Municipal, Federal	59	88.14	8.47	3.39
CONSTRUCTION				
Builders, Quarries, Gravel	12	91.67	8.33	.....
INDUSTRIAL				
Local and Over-the-Road	5	60.00	40.00	.....
PETROLEUM				
Producers and Distributors	8	62.50	25.00	12.50
PUBLIC UTILITY				
Gas, Power, Water and Telephone	24	58.33	16.67	25.00
RETAIL DELIVERY				
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	22	68.18	18.18	13.64
TRUCK RENTAL	8	87.50	.....	12.50
TRUCK AND BUS FLEETS, MIXED	9	88.88	.....	11.12
TOTAL AND AVERAGE	230	78.26	13.04	8.70

This table gives a vocational breakdown of the fleets that do spot refinishing only, completely refinish their vehicles, and those that send out all repainting jobs. Table 1 of the October, 1948, issue gave a similar breakdown by fleet size

Attachments

SOME fleets remove such body attachments as ornamental and drip moldings, reflectors, lights and body hardware. Others do not. Table 3 lists principal parts removed by fleets that employ this operation.

The column headed "Other," contains fleets who reported that they mask all such items. Reported here, also, are fleets who remove special attachments not tabulated.

Fleets not appearing in the tabulation, paint all vehicle attachments; with the exceptions of lenses, of course. The reason advanced for this practice is that when chrome parts, for example, are painted, the polishing of these parts is eliminated. In the case of signs, they say that

these must be repainted at the same time anyway.

Those who remove the parts tabulated say that this step forestalls rot, corrosion and general weakening of the fastenings and the areas to which they are fastened.

This is one case where fleets who do their own refinishing show a much higher percentage for removing attachments than fleets who send their work out.

Inaccessible Areas

ON certain type trucks there are areas that are not readily accessible unless body is moved away from the cab. Some fleets move the body away from the cab, others do not. Table 4 shows that 36.23 per cent of the fleets include this operation.

It is not to be inferred that the remainder do not refinish those areas. The same table contains an analysis of the practices of the fleets that do not separate the cab from the body. It will be seen that only 10.61 per cent of the fleets skip those places. The other

Majority of Fleets Steam-Clean Vehicles Before Refinishing

Q. "When preparing a vehicle for repainting, do you wash with cold water and detergent, hot water and detergent, or steam clean?"

A. 70.05% fleets steam-clean; 29.47% wash with cold water and detergent; 26.57% wash with hot water and detergent.

Table 2

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	Steam Clean (Per Cent)	Cold Water and Detergent		Hot Water and Detergent	
			City Pressure (Per Cent)	High Pressure (Per Cent)	City Pressure (Per Cent)	High Pressure (Per Cent)
COMMON CARRIER						
Local and Over-the-Road	34	82.35	23.53	2.94	5.88	8.82
FOOD DISTRIBUTION						
Bakeries, Dairies, Meats and Other Food Products	42	59.52	19.05	26.19	4.76	21.43
GOVERNMENT						
State, County, Municipal, Federal	55	80.00	12.73	18.18	10.91	27.27
CONSTRUCTION						
Builders, Quarries, Gravel	11	81.81	.....	18.18	.....	9.09
INDUSTRIAL						
Local and Over-the-Road	5	40.00	20.00	20.00	20.00	.....
PETROLEUM						
Producers and Distributors	6	83.33	.....	.....	16.67	33.33
PUBLIC UTILITY						
Gas, Power, Water and Telephone	19	57.89	10.53	10.53	10.53	21.05
RETAIL DELIVERY						
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	61.11	16.67	5.56	22.22	.....
TRUCK RENTAL	8	62.50	.....	12.50	.....	25.00
TRUCK AND BUS FLEETS, MIXED	9	55.56	22.22	11.11	.....	11.11
TOTAL AND AVERAGE	207	70.05	14.98	14.49	8.70	17.87

What Body Parts do Fleets Remove Prior to Painting?

Q. "Before preparing surfaces for repainting, do you remove body hardware, accessories, trim, signs or other parts?"

A. 40.10% fleets remove all attached signs; 36.71% remove ornamental moldings; 27.05% remove reflectors; 25.60% remove all body hardware.

Table 3

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	All Attached Signs (Per Cent)	Ornamental Moldings (Per Cent)	Reflectors (Per Cent)	All Body Hardware (Per Cent)	Lights (Per Cent)	Drip Moldings (Per Cent)	Rub Rails (Per Cent)	Other (Per Cent)
COMMON CARRIER									
Local and Over-the-Road	34	41.18	23.53	26.47	8.82	23.53	14.71	.....	5.88
FOOD DISTRIBUTION									
Bakeries, Dairies, Meats and Other Food Products	42	38.10	30.96	40.48	40.48	21.43	11.90	9.52	4.76
GOVERNMENT									
State, County, Municipal, Federal	55	32.73	38.18	18.18	20.00	20.00	14.55	7.27	7.27
CONSTRUCTION									
Builders, Quarries, Gravel	11	27.27	54.54	9.09	18.18	.....	9.09	9.09	.....
INDUSTRIAL									
Local and Over-the-Road	5	60.00	60.00	40.00	.....	20.00	.....	.....	20.00
PETROLEUM									
Producers and Distributors	6	50.00	66.67	33.33	.....	16.67	33.33	.....	.....
PUBLIC UTILITY									
Gas, Power, Water and Telephone	19	31.58	31.58	10.53	21.53	5.26	.....	5.26	5.26
RETAIL DELIVERY									
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	61.11	55.56	22.22	44.44	22.22	11.11	11.11	11.11
TRUCK RENTAL	8	62.50	37.50	37.50	37.50	12.50	25.00	12.50	.....
TRUCK AND BUS FLEETS, MIXED	9	44.44	22.22	66.67	55.56	55.56	11.11	44.44	.....
TOTAL AND AVERAGE	207	40.10	36.71	27.05	25.60	19.81	12.56	8.21	5.31

fleets find that there is ample space for the spray to reach those areas, or they reach in between as far as possible.

The column headed "Other" contains fleets that do not have that type of body or, in the case of those who send out this work, fleets who let the painter decide whether this is necessary. This is another case where the fleets who do their own work show a much higher percentage in favor of moving the body.

Chemical Strippers

THE use of chemical paint strippers is growing, at least for certain types of bodies. In an attempt to determine how many fleets employed this method, the question was included in the survey. Table 5 shows that one-third of the reporting fleets use some kind of chemical paint stripper.

Fleets that reported using a chemical stripper also were asked if they used a special neutralizer after the chemical did its work. Of all the stripper users, 57.97 per cent said they used a special

Do Fleets Refinish Back of Cab and Front of Body?

Q. "Do you move body away from cab to prepare back of cab and front of body for painting?"

A. 36.23% fleets move body away from cab. Of those who do not, 17.42% fleets reach areas with spray; 9.85% reach as far as possible.

Table 4

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	Move Body From Cab		Number of Fleets Reporting "NO"	Reach With Spray	Reach As Far As Possible	Don't Refinish Area	Other
		YES (Per Cent)	NO (Per Cent)		(Per Cent)	(Per Cent)	(Per Cent)	(Per Cent)
COMMON CARRIER								
Local and Over-the-Road	34	50.00	50.00	17	29.41	17.65	17.65	35.29
FOOD DISTRIBUTION								
Bakeries, Dairies, Meats and Other Food Products	42	30.95	69.05	26	17.24	17.24	10.34	55.18
GOVERNMENT								
State, County, Municipal, Federal	55	45.45	54.55	30	6.67	.....	6.67	86.66
CONSTRUCTION								
Builders, Quarries, Gravel	11	54.55	45.45	5	20.00	.....	.....	80.00
INDUSTRIAL								
Local and Over-the-Road	5	40.00	60.00	3	.....	33.33	.....	66.67
PETROLEUM								
Producers and Distributors	6	16.67	83.33	5	20.00	40.00	.....	40.00
PUBLIC UTILITY								
Gas, Power, Water and Telephone	19	10.53	89.47	17	17.65	5.88	35.29	41.18
RETAIL DELIVERY								
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	16.67	83.33	15	20.00	6.67	.....	73.33
TRUCK RENTAL	8	62.50	37.50	3	66.67	.....	.....	33.33
TRUCK AND BUS FLEETS, MIXED	9	11.11	88.89	8	12.50	.....	.....	87.50
TOTAL AND AVERAGE	207	36.23	63.77	132	17.42	9.85	10.61	62.12

Chemical Paint Stripper Used by Some Fleets

Q. "Do you use a chemical paint stripper?"

A. 33% fleets use a chemical stripper; of this number, 57.97% neutralize surface after stripping.

Table 5

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	Fleets Using Chemical Paint Stripper (Per Cent)	Chemical Stripper Users Who Neutralize Surface After Stripping (Per Cent)
COMMON CARRIER			
Local and Over-the-Road	34	26.47	55.56
FOOD DISTRIBUTION			
Bakeries, Dairies, Meats and Other Food Products	42	38.10	75.00
GOVERNMENT			
State, County, Municipal, Federal	55	32.73	66.67
CONSTRUCTION			
Builders, Quarries, Gravel	11	63.64	14.29
INDUSTRIAL			
Local and Over-the-Road	5	40.00	50.00
PETROLEUM			
Producers and Distributors	6	16.67	100.00
PUBLIC UTILITY			
Gas, Power, Water and Telephone	19	10.53	50.00
RETAIL DELIVERY			
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	38.89	42.86
TRUCK RENTAL	8	37.50	66.67
TRUCK AND BUS FLEETS, MIXED	9	44.44	50.00
Total and Average	207	33.33	57.97

Do Fleets Hammer-Out or Fill Dents?

Q. "Do you fill dents?"

A. 38.65% fleets fill dents with solder; 10.63% fill with putty; 25.60% use either solder or putty, or both; 25.12% use other types of fillers or hammer-out.

Table 6

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	Solder (Per Cent)	Putty (Per Cent)	Solder and Putty (Per Cent)	Other (Per Cent)
COMMON CARRIER					
Local and Over-the-Road	34	38.24	8.82	23.53	29.41
FOOD DISTRIBUTION					
Bakeries, Dairies, Meats and Other Food Products	42	35.71	14.29	33.33	16.67
GOVERNMENT					
State, County, Municipal, Federal	55	50.91	5.45	18.18	25.46
CONSTRUCTION					
Builders, Quarries, Gravel	11	18.18	9.09	27.27	45.46
INDUSTRIAL					
Local and Over-the-Road	5	20.00	40.00	20.00	20.00
PETROLEUM					
Producers and Distributors	6	33.33	50.00	16.67	.....
PUBLIC UTILITY					
Gas, Power, Water and Telephone	19	36.84	5.26	26.32	31.58
RETAIL DELIVERY					
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	22.22	16.67	38.89	22.22
TRUCK RENTAL	8	75.00	.....	25.00	.....
TRUCK AND BUS FLEETS, MIXED	9	22.22	.....	22.22	55.56
TOTAL AND AVERAGE	207	38.65	10.63	25.60	25.12

neutralizer. The others, 42.03 per cent, said they did not. This latter group used a type of stripper that is removed by water.

Repairing Dents and Scratches

THE method of repairing dents and other deep surface abrasions is similar to that employed by fleets for spot refinishing jobs. It takes less time to fill a dent than to hammer it smoothly. Consequently, the use of fillers is rapidly becoming the prevailing practice, especially with the diversified types of fillers available.

Of course, there are fleets that do both—hammer-out and fill. It seems that it all depends on where the defect is, and how bad it is, and whether the surface is steel, wood or aluminum.

Table 6 shows that the majority of fleets, 38.65 per cent, use solder only to fill dents and scratches; 10.63 per cent use putty; 25.60 per cent use both, depending upon the surface being repaired.

The column headed "Other" contains fleets that use fillers of types other than solder or putty. The types mentioned were too few to tabulate individually. They are mostly of the cold application type and range in consistency from fluids to pastes.

It may be of interest to note that included in this column is mention of the new, heavy, flexible material, a colloid-treated fabric, being marketed to cover large damaged areas, and which can be molded to the contour of the surface being repaired.

In this column, also, are a few fleets who say they hammer-out every nick and dent, depending upon a smooth finish by the use of several prime coats.

Sanding the Old Finish

THE majority of fleets sand the vehicle to be painted to insure good adhesion. However, some fleets sand down to the bare metal, while others give the surfaces a light sanding, just enough to remove the polish, varnish or lacquer. Table 7 shows that the latter practice is in greater use. Some fleets, of course, report that both types of sandings are employed, depending on the condition of the vehicle.

Due to insufficient space, no mention will be made of the methods of filling or repairing rusted areas, or the preparation of oxidized areas of aluminum bodies. These steps will be discussed in the December issue.

Final Cleaning

BODY repairs always leave soiled areas which, if not cleaned, will affect the quality of the paint job. Table 8 shows that the majority of fleets, 65.21 per cent, wipe the vehicle with some type of solvent. Lacquer thinner, of course, is most widely used because the majority of fleets use that type of finish.

Almost 17 per cent of the fleets use hot or cold water and detergent. The majority of fleets that report that they wipe dry, use tack cloths. The "Other" column contains mostly fleets that farm their refinishing out and are not certain just how the final cleaning operations is handled. There also are a few fleets that say that they used compressed air to blow the surface clean.

Surface Given Smooth Sanding Before Applying Finish

Q. "Do you sand down to bare metal, or sand to smooth surface only?"

A. 61.84% fleets prepare body for painting by sanding surface smooth; 18.84% sand to bare metal; 11.11% sand smooth or to bare metal, as needed.

Table 7

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	Sand Smooth (Per Cent)	Sand to Bare Metal (Per Cent)	Sand Smooth or to Bare Metal as Needed (Per Cent)	Other (Per Cent)
COMMON CARRIER					
Local and Over-the-Road	34	64.71	17.65	11.76	5.88
FOOD DISTRIBUTION					
Bakeries, Dairies, Meats and Other Food Products	42	35.71	19.05	28.57	16.67
GOVERNMENT					
State, County, Municipal, Federal	55	69.09	23.65	1.81	5.45
CONSTRUCTION					
Builders, Quarries, Gravel	11	72.73	.....	18.18	9.09
INDUSTRIAL					
Local and Over-the-Road	5	80.00	20.00	.....	.....
PETROLEUM					
Producers and Distributors	6	50.00	33.33	16.67	.....
PUBLIC UTILITY					
Gas, Power, Water and Telephone	19	73.68	10.53	10.53	5.26
RETAIL DELIVERY					
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	66.67	22.22	.....	11.11
TRUCK RENTAL	8	75.00	25.00	.....	.....
TRUCK AND BUS FLEETS, MIXED	9	66.67	11.11	11.11	11.11
TOTAL AND AVERAGE	207	61.84	18.84	11.11	8.21

The Final Cleaning Operation Before Repainting

Q. "After preparatory work is finished, is vehicle again cleaned before painting?"

A. 65.21% fleets wipe vehicle with a solvent; 15.46% wipe dry; 16.91% wash with hot or cold water.

Table 8

VOCATIONAL GROUPS	Number of Fleets Doing Complete Refinishing	Wipe With Solvent			Wipe Dry (Per Cent)	Wash		Other (Per Cent)
		Lacquer Thinner (Per Cent)	Other Solvents (Per Cent)	Turpentine (Per Cent)		Hot Water and Detergent (Per Cent)	Cold Water and Detergent (Per Cent)	
COMMON CARRIER								
Local and Over-the-Road	34	50.00	8.82	5.88	8.82	8.82	14.71	8.82
FOOD DISTRIBUTION								
Bakeries, Dairies, Meats and Other Food Products	42	52.38	16.67	2.38	11.90	4.76	2.38	9.52
GOVERNMENT								
State, County, Municipal, Federal	55	34.55	12.73	9.09	20.00	16.36	7.27	7.27
CONSTRUCTION								
Builders, Quarries, Gravel	11	36.36	18.18	.....	27.27	27.27	18.18	9.09
INDUSTRIAL								
Local and Over-the-Road	5	20.00	60.00	20.00	.....	.....	.....	20.00
PETROLEUM								
Producers and Distributors	6	50.00	50.00	.....	.....	.....	.....	.....
PUBLIC UTILITY								
Gas, Power, Water and Telephone	19	36.84	31.58	.....	21.05	.....	5.26	15.78
RETAIL DELIVERY								
(Other than Food) Dry Cleaning, Laundry, Newspaper, Coal and Ice, Department Stores, Beverage	18	38.89	22.22	5.56	22.22	5.56	11.11	.....
TRUCK RENTAL	8	37.50	37.50	.....	12.50	.....	.....	12.50
TRUCK AND BUS FLEETS, MIXED	9	22.22	11.11	11.11	11.11	11.11	11.11	22.22
TOTAL AND AVERAGE	207	41.06	18.84	5.31	15.46	9.18	7.73	9.18

A Systematized Fleet Safety Program

BY THE BUREAU OF HIGHWAY SAFETY .... NATIONAL COUNCIL OF PRIVATE MOTOR TRUCK OWNERS, INC., WASHINGTON, D. C.

The Why and How of Driver Responsibility

The Why — SAFETY TEXT • NUMBER 2

IT is the responsibility of the driver to ACHIEVE safe vehicle operation.

This responsibility he owes to himself . . . his employer . . . his fellow men.

The responsible driver takes pride in his work and his safety record. He co-operates cheerfully and intelligently in helping to make management's safety program WORK.

The responsible driver looks beyond the "load 'er up," "deliver," "collect," "hurry back" formula. He strives for more efficient and economical operation of his vehicle . . . he regards himself as the trusted personal representative of his employer in his relations with fellow highway users, with customers, pedestrians . . . he's a courteous and SAFE driver.

It is the driver's responsibility to PREVENT accidents. Regardless of the action of others . . . regardless of who is at fault . . . the responsible driver knows that highway accidents result in human suffering . . . property loss. They involve employee compensation . . . increase insurance costs . . . delay deliveries . . . destroy good will . . . result in FINANCIAL LOSS.

The various things that add up to DRIVER RESPONSIBILITY result in a sound safety program. Developing driver responsibility is the job of management. You can plan safety . . . but he must ACHIEVE it.

It can't be done in "one easy lesson." There must be a program that inspires . . . teaches . . . follows through and MANAGES.

The "HOW" of driver responsibility . . . the things that make responsible drivers . . . is covered in the accompanying "Instructions."

Management (large or small) can discuss the following driver responsibility program at driver meetings . . . emphasize the various subjects on bulletin boards . . . impress them in pay envelopes . . . present them in periodic short talks. or short letters direct to the driver's home. This last method is effective. Joe Driver says to Mary, "Look—the boss is thinking about us and telling us HOW to drive safely and avoid accidents!"

(For "The HOW," see next page)

The How of Driver Responsibility

ANY program designed to develop driver responsibility should underline the following things which safe drivers must practice at all times—under all conditions:

1. Physical Fitness

Physical condition has a direct bearing on the functioning of the mind, judgment and general mental attitude of the driver. Keeping physically fit at all times is an important aid in the exercise of RESPONSIBILITY. Two factors more than any others contribute to physical fitness:

a. SLEEP-REST. There should be regular hours for sleep. Physical relaxation must be had to get proper rest. Sleep of sufficient duration is the best way to abtain rest. Any driver who fails to get his required sleep is not fulfilling his complete RESPONSIBILITY as a driver.

b. RECREATION. Every driver should have some form of recreation that gives him complete change of thought and physical exercise. However, the recreation time should not encroach on the sleep-rest time. Every driver should choose the type of recreation he enjoys most.

Too much emphasis cannot be laid on the value of SLEEP, REST AND RECREATION.

2. Drowsiness

Falling-asleep accidents are usually of the more serious type, so extra precautions should be taken by the driver to prevent drowsiness. These precautions are not optional; they are definitely the driver's responsibility. Under no circumstances should the driver continue driving if he has become drowsy. Any normal person may feel drowsy while driving. Drowsiness may develop shortly after a heavy meal or on a long straight run when driving becomes monotonous. To clear his head when drowsy, the driver should first fill the cab of the vehicle with fresh air. If he still feels sleepy he should drive off the highway and stop until the period of drowsiness disappears.

3. Alcohol

"Alcohol and gasoline do not mix." Every responsible driver should be required to govern himself accordingly.

4. License

The responsible drive will carry his chauffeur's license always and will be sure that all registration or permit plates are readily available for federal, state or local inspection.

5. Preparation

Before starting his engine, the responsible driver will guard against the possibility of a road mishap by making a prior routine check of such important items as the distribution of the load, condition of the steering gear, tires, brakes, lights, windshield wipers and horn. He will see that his vehicle is equipped with the required number of flares, fusees and flags.

6. Starting

The responsible driver will permit the engine to warm up before starting his trip. He will start in low gear and will gradually accelerate his engine, timing the clutch application in turn for quiet shifting to each higher gear until the vehicle is brought up to speed.

7. Speed

It is the responsibility of the driver to drive at a speed consistent with the condition of road surface, density of traffic and degree of visibility.

8. Children

The responsible driver will approach children and pass through pedestrian traffic cautiously. He will be prepared for any situation, such as the sudden darting of a child from the sidewalk into the street. Excessive blowing of horn is undesirable—but children should be warned.

9. Elderly Persons

The responsible driver will be particularly careful to give elderly persons the right of way.

10. Position on Highway

The responsible driver will maintain his proper position in the line of traffic while going straight ahead or while making a right or left-hand turn.

11. Following

When following a vehicle the responsible driver will maintain a safe distance. A safe distance should be determined by the condition of the road surface, the speed of travel, visibility, the weight of the load and the braking ability of the vehicle.

12. Clearance

The responsible driver will endeavor to maintain proper clearance in front, back and on both sides of his vehicle.

13. Loads

If the vehicle carries a high load, the responsible driver will determine its height and check all clearances of underpasses before driving through them. Small clearances call for extra care in driving. He will also inspect the load for proper weight distribution and see that it is properly secured. He will give attention to tail-gate, tarpaulins, chains, ropes, etc. Flags in daylight and lights at night should be attached to over-hanging loads. It is the responsibility of the driver to know the state law in this respect.

14. Signals

The responsible driver will give the proper hand or mechanical signal before making right or left-hand turns, slowing down or stopping. He will make signals clearly and give them in ample time.

15. Horn

The responsible driver will use his horn to warn others, not to frighten or to register impatience.

16. Mirrors

In moving his truck, the responsible driver will not depend entirely upon his rear-view mirror for judging clearance. Mirrors should be used only as an aid. Mirrors should be properly adjusted and kept clean.

17. Intersections

When approaching an intersection, the responsible driver will make a quick survey of all traffic conditions. He will enter and cross only when he can clear all vehicles and pedestrians safely. He will assume that the other fellow has the right of way.

18. Turning

When turning *right*, the responsible driver will keep as close to right-hand side of road or street as is possible. For *left* turns, he will keep to the center line. He will signal in advance (approximately 200 feet) for direction changes, and will slow down gradually to avoid blocking traffic and wait for oncoming traffic to clear.

19. Curves

The responsible driver will slow down before entering a curve and accelerate gradually as he rounds it. He will keep to the right, stay in line, and will not pass, park or make a "U" turn on a curve.

20. Night Driving

The responsible driver will see that both headlights are lighted and that the beams are properly adjusted to driving conditions. He will switch quickly to low beam for oncoming traffic. He will not exceed a speed limit that will permit him to stop within the distance of the objects or hazards revealed by his headlights.

21. Fog

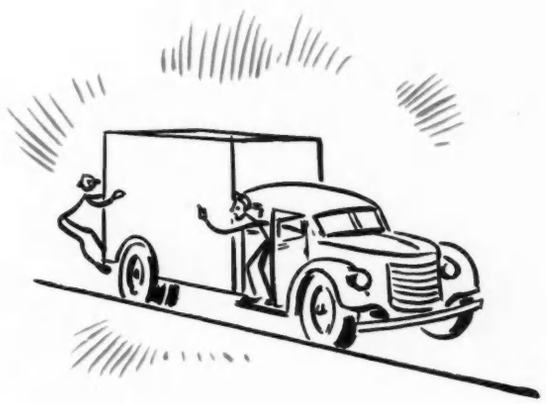
When fog is encountered, the responsible driver will depress his headlight beams. Fog causes bright lights to reflect into the driver's eyes. Speed should be reduced consistent with visibility.

22. Fusees, Flares and Portable Reflectors

Should the responsible driver be stalled on the highway at night, he will light fusees quickly and place them at traffic side of vehicle both front and back. While they are burning, he will place one lighted flare or reflector not less than 100 feet behind and another the same distance in front of vehicle. The responsible driver will consult state regulations with respect to placing of all warning signals.

23. Unauthorized Passengers

It is the responsibility of the driver to refuse to carry any unauthorized passenger.



24. "Hitchers"

Should a person hold on to vehicle for a ride, the responsible driver will pull to the curb and stop before ordering the person to get off.

25. Distractions

If conversing with an authorized passenger, the responsible driver will keep his eyes on the road and his hands on the wheel. When consulting maps, he will pull to the side of the road or curb, and the same holds true when he is writing, rearranging load, etc.

(TURN TO NEXT PAGE, PLEASE)

THE **How** CONTINUED

26. Stopping

The driver should be able to stop his vehicle safely within the clear distance ahead with due regard to his weight or load, brakes and road conditions.

27. Backing

The responsible driver will back his vehicle only when necessary since there is risk every time he does so. Where possible, he will leave enough room in front so vehicle can go forward from a parked position. If necessary to back up, he will make sure nothing is behind him.

28. Parking

While parking, the responsible driver will not abuse tires by striking or rubbing the curb. He will turn back of front wheels to curb if facing up hill, and toe front wheels into curb if parking on a down grade. In both cases he will make certain that the parking brake is securely set. He will park only on the proper side of the street.

29. Entering Vehicle

The responsible driver will enter and leave his vehicle from the curb side.

30. Pulling from Curb

The responsible driver will use great care when pulling from the curb into traffic.

31. Passing

The responsible driver will exercise caution when passing vehicles on the highway, when approaching hillcrests, and when going around curves. He will pass another vehicle only when the sight distance is ample and there is sufficient space to do so.

32. Changing Vehicles

Should it become necessary to change vehicles on the highway, the responsible driver will check the replacement vehicle as to its brakes, horn, windshield wipers, flares, fuses, flags, etc., and make notes and report promptly all serious defects.

33. Reporting Defects

The responsible driver will observe the performance of his vehicle and report any defects that develop during the driving period.

34. In Case of Accident

. . Should the driver be involved in an accident resulting in personal injury to anyone, it is the driver's responsibility to render all possible assistance in securing aid for the injured. If medical aid is required and a police officer can be reached, the driver should request the police officer to call for medical assistance. In the absence of a police officer, the driver should call the telephone operator, tell her of the need for medical assistance and endeavor to obtain it. The driver should be sure to describe the exact location of the accident, such as the name of the street or highway, nearest intersection or distance from the nearest village or town. The driver should not lose his temper or argue with motorists or persons involved in accidents. The accident has happened—the next step is to get the details in an orderly and gentlemanly manner. A driver's conduct at the scene of an accident often has a distinct bearing on the ultimate disposition of a case. He should get the names and addresses of as many witnesses as possible. It is not advisable to approach anyone with the question, "Did you see the accident?" Quite frequently persons not actually witnessing the accident can furnish helpful information incident to the accident. The driver should get all license numbers and note the make, model, etc., of all vehicles involved. He should fix in his mind the exact position of all vehicles, and take measurements by pacing off distances from curb, crosswalk, center of highway, nearest intersection, landmarks, etc. He should make written notes of such measurements for future reference. *He should not discuss responsibility nor should he sign any paper or make any settlement at the scene of the accident.*

SAFETY INSTRUCTIONS

In This Highway Safety Program for Commercial Vehicles Operators

LAST ISSUE: Management Responsibility

THIS ISSUE: Driver Responsibility

NEXT ISSUE: Driver Selection, Training and Supervision

SUCCEEDING ISSUES:

- Accident Reports and Records
- Human Engineering
- Visual Information . . . Contests . . . Awards
- Group Safety Meetings . . . Development of Safety Committees
- First-Aid Training
- Conservation of Equipment
- Unusual Highway Hazards; Winter Driving; Holiday Hazards; Night Driving; Highway-Railroad Grade Crossings
- Fire Prevention
- Safety Through Courtesy . . . Defensive Driving

Your Own Highway Safety Program

This and other installments are punched marked for removal and insertion in standard three-ring binder. Save them! Use them!

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Truck Specifications Table

OF CURRENT PRODUCTION MODELS

DATA SUPPLIED BY MANUFACTURERS AND TABULATED BY

COMMERCIAL CAR JOURNAL

Key to Definitions, References and Abbreviations

DEFINITIONS

MAKE AND MODEL

Only Domestic Truck Models are listed.

OPTIONAL UNITS

For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE

The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE

The Gross Weights published herewith are those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weights that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT

The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE

The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE

The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost, if it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE

The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE

The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.

Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE

Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS

Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO REFERENCES

c.f.—Cab Forward design.
c.o.e.—Cab-Over-Engine design.
(D)—Diesel-engine equipped.
(T)—Designed for tractor use only.
(C)—Converted Ford or Chevrolet Model.

(2) International Harvester—Specifications shown represent only the basic standard chassis units and standard chassis ratings in keeping with definitions established by Commercial Car Journal. Optional units not shown such as engines, clutches, transmissions, axles or axle ratios, brakes, wheels and tires, frames or frame reinforcements, optional wheelbases or any other units which make up part of the truck chassis and which International will furnish and approve from the factory as optional equipment can or will change either the ratings, chassis weight shown or performance of the truck as indicated by this list.

Also the company reserves the privileges of assigning special gross vehicle ratings for any chassis providing in the opinion of its engineering department, the type of service justifies the new rating w. hout decreasing the safety factor designed into the truck.

(a)—Available with Two-Speed Axle designated KBS Models.

KEY TO ABBREVIATIONS

MAKES—ALL

B—Bendix
BL—Brown-Lipe.
Bu or Bud—Buda.
BW—Bendix-Westinghouse
C—Chevrolet.
Cl or Cla—Clark.
Con—Continental.
Cum—Cummins-Diesel.
Eat—Eaton.
F—Ford.
Fu—Fuller.
H—Hotchkiss.
Her—Hercules.
L—Lockheed.
LH—Lockheed front, Wagner "hi-Tork" rear.
LW—Lockheed front, Wisconsin rear.
M—Midland.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Shu—Shuler.
Spi—Spicer
T or Tim—Timken.
Tw—Timken-Westinghouse
TW—Timken-Wisconsin.
WG—Warner Gear.
Wau—Waukesha.
W or Wis—Wisconsin.
Wg—Wagner.
We—Westinghouse.
WW—Westinghouse or Wagner

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group
4R—Forward and rear units of Rear Axle Group.
6—All wheels.

BRAKES—SERVICE

Location

4—Four Wheels, front and rear.
4r—Four Wheels, rear only.

Type

I—Internal.
X—External.

Operation

A—Air.
H—Hydraulic.
V—Vacuum.
D or Dp—Dual Primary

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
6—Six wheels.
P—Back of Power Divider.
J—Jackshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
M—Mechanical.
X—External.
PD—Two drums on rear of power divider.

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Foundry.
c—Cast iron.
Cc—Composite Front, Cast Iron in rear.
Ce—Centrifuse.
Cl—Copper iron.
Co—Composite.
D—Dayton.
E—Ermalite.
G—Gunite.
N—Nickel iron.
S—Steel.

(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center
Tf—Tapered front.
A—Straight section sidemembers, lined with oak inserts.
Z—Reinforced (X) member frame, box type sections.

REAR AXLE

Final Drive and Type

B—Bevel.
CD—Chain Drive
F—Full-floating.
H or Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
¾—Three Quarters Floating.
½—Semi-Floating
T—Torque Tube

GEAR RATIOS

(**) Only one ratio.

Drive and Torque

H—Hotchkiss (springs).
R—Radius Rods.
L—Parallel Torque Rods
T—Torque Arm.

GOVERNOR STANDARD

Y—Yes.
N—No.

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(Continued from Page 115)

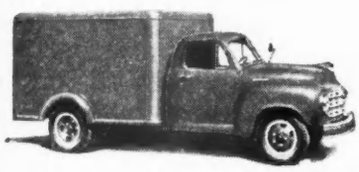
Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Sp'ds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
1	Available (c.o.e.)....200	.....	.....	.....	15000	5500●	7.00 /20D	8.25/20	Wau BM	6-3 5/16x4 1/4	263	5.9	178	78–2800	7–2 1/16x10 1/4	N	WG T9	4	Tim E100DPH	HF	H	** -6.20	Tim 32502H	L4IHV	314	534	a	TX	.....	10x3x 1/4	T
2	(c.o.e.)....225	.....	.....	.....	16500	6200●	7.50/20D	8.25/20	Wau BZ	6-4x4 1/4	320	5.9	235	105–3200	7–2 1/16x10 1/4	N	WG T97	4	Tim E100DPH	HF	H	** -6.20	Tim 32502H	L4IHV	314	534	a	TX	.....	10x3x 1/4	T
3	(c.o.e.)....250	.....	.....	.....	20000	6400●	8.25/20D	9.00/20	Wau BZ	6-4x4 1/4	320	5.9	235	105–3200	7–2 1/16x10 1/4	N	Fu 5A330	5	TimH100DPH	HF	R	** -6.80	Tim 32502H	L4IHV	344	584	a	TX	.....	10x3x 1/4	T
4	(c.o.e.)....400	.....	.....	.....	22000	6800●	9.00/20D	10.00/20	Wau BZ	6-4x4 1/4	320	5.9	235	105–3200	7–2 1/16x10 1/4	N	Fu 5A330	5	Tim L100DPH	HF	R	-6.83	Tim 35000H	L4IHV	370	642	a	TX	.....	12x3x 1/4	T
5	(c.o.e.)....500	.....	.....	.....	23000	7500●	9.00 /20D	10.00/20	Wau MZA	6-4 1/4x4 1/4	404	5.6	285	130–3000	7–2 1/16x12 1/2	Y	Fu 5F430	5	Tim L100DPH	HF	R	-6.83	Tim 35000H	L4IHV	370	642	a	TX	.....	12x3x 1/4	T
6	(c.o.e.)....550	.....	.....	.....	28000	8100●	10.00/20D	11.00/20	Wau MZA	6-4 1/4x4 1/4	404	5.6	285	130–3000	7–2 1/16x12 1/2	Y	Fu 5F430	5	Tim Q100DPH	HF	R	-7.80	Tim 26452H	L4IHV	458	846	a	TX	.....	12x3x 1/4	T
7	(c.o.e.)..550 X	.....	.....	.....	32000	9600●	10.00/20D	11.00/24	Wau MZA	6-4 1/4x4 1/4	404	5.6	285	130–3000	7–2 1/16x12 1/2	Y	Fu 5F430	5	Tim S200DPH	2F	R	-7.84	Tim 26452H	L4IHV	576	1054	a	FD	.....	14x3x 1/2	T
8	(c.o.e.)....600	.....	.....	.....	28000	10000●	10.00 /20D	11.00/24	Wau 140 GK	6-4 1/2x5 1/2	525	6.4	425	172–3600	7–3 1/16x13 1/2	Y	Fu 5A650	5	Tim R100P	HF	R	-7.40	Tim 26452TW	L4IA	566	950	a	FD	.....	14x3x 1/2	T
9	(c.o.e.)....601	.....	.....	.....	28000	10900●	10.00/20D	11.00/24	Wau 145 GK	6-5 1/16x6	779	6.2	595	240–2400	7–3 1/16x17 1/2	Y	Spi 7851	4	Tim R100P	HF	R	-7.40	Tim 26452TW	L4IA	566	950	a	FD	.....	14x3x 1/2	T
10	(D) (c.o.e.)....602	.....	.....	.....	28000	11200●	10.00/20D	11.00/24	Cum HB600	6-4 1/2x6	672	17.	500	150–1800	7–4 1/2x16 1/2	Y	Spi 7851	4	Tim R100P	HF	R	-7.40	Tim 26452TW	L4IA	566	950	a	FD	.....	14x3x 1/2	T
11	Biederman...NSH	.....	130	190	21000	6070	8.25/20D	10.00/20	Her JXLD	6-4x4 1/2	339	6.9	272	131–3200	7–2 1/16x10 11/16	N	Fu 5A330	5	TimH700DPH	SF	H	** -7.2	Tim 35000HX	LH4IH	514	744	G	T	60	9x3x 1/4	C
12	.....NSD	.....	130	190	21000	6070	8.25/20D	10.00/20	Her JXLD	6-4x4 1/2	339	6.9	272	131–3200	7–2 1/16x10 11/16	N	Fu 5A330	5	TimH700DPH	2D	H	6.13–8.15	Tim 35000HX	LH4IH	514	744	G	T	60	9x3x 1/4	C
13	Chevrolet.....FP	835	116	....	4600	▼2590	6.00/16S	15S	O-Thrift Mas.	6-3 1/16x3 1/4	216	6.5	174	90–3300	4– ♦ ♦ ♦	N	Own	3	Own	Hy	T	** -4.11	Own	O4IH	164	242	Co	2I	39	5 1/4 x2 1/4 x 1/4	C
14	.....FR	945	125	....	♦5800	▼2935	15S	7.00/17S	O-Thrift Mas.	6-3 1/16x3 1/2	216	6.5	174	90–3300	4– ♦ ♦ ♦	N	Own	3	Own	HyF	H	** -4.57	Own	O4IH	183	272	Co	2I	48 1/4	5 1/4 x2 1/4 x 1/4	C
15	† Fwd. Control. FT	1035	125	....	♦7000	2675	15S	7.00/17S	O-Thrift Mas.	6-3 1/16x3 3/4	216	6.5	172	90–3300	4– ♦ ♦ ♦	N	Own	3	Own	HyF	H	** -5.14	Own	O4IH	202	302	Co	2I	....	5 1/4 x2 1/4 x 1/4	C
16	.....FS	1025	137	....	8800	▼3170	7.00/17S	7.00/18	O-Thrift Mas.	6-3 1/16x3 3/4	216	6.5	174	90–3300	4– ♦ ♦ ♦	N	Own	4	Own	HyF	H	** -5.14	Own	O4IH	248	371	Co	2I	60	7x2 1/4 x 1/2	C
17	† Fwd. Control. FU	1125	137	....	10000	2880	7.00/17S	7.00/18	O-Thrift Mas.	6-3 1/16x3 3/4	216	6.5	172	90–3300	4– ♦ ♦ ♦	N	Own	4	Own	HyF	H	-5.14	Own	O4IH	248	371	Co	2I	....	7x2 1/4 x 1/2	C
18	.....RJ	1100	137	....	12500	▼3620	7.00/20S	7.50/20	O-Thrift Mas.::	6-3 1/16x3 1/4	216	6.5	174	90–3300	4– ♦ ♦ ♦	N	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	60	7x2 1/4 x 1/2	C
19	.....RK	1135	161	....	12500	▼3740	7.00/20S	7.50/20	O-Thrift Mas.::	6-3 1/16x3 1/4	216	6.5	174	90–3300	4– ♦ ♦ ♦	N	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	84	8 1/16 x2 1/16 x 1/4	C
20	(School bus) .RL	1280	161	....	12000	▼4120	6.50/20D	7.00/20	O-Thrift Mas.::	6-3 1/16x3 1/4	216	6.5	174	90–3300	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	....	8 1/16 x2 1/16 x 1/4	C
21	.....RVS	1470	137	....	15000	▼4230	7.50/20D	9.00/20▲▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	192	93–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	60	8 1/16 x2 1/16 x 1/4	C
22	.....RWS	1505	161	....	15000	▼4290	7.50/20D	9.00/20▲▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	192	93–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	84	8 1/16 x2 1/16 x 1/4	C
23	(c.o.e.).....RPS	●1825	110	....	15000	▼4755	7.50/20D	9.00/20▲▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	189	90–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	60 1/16	8 1/16 x2 1/16 x 1/4	C
24	(c.o.e.).....RRS	●1860	134	....	15000	▼4805	7.50/20D	9.00/20▲▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	189	90–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	84 1/16	8 1/16 x2 1/16 x 1/4	C
25	(c.o.e.).....RSS	●1895	158	....	15000	▼4900	7.50/20D	9.00/20▲▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	189	90–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	108 1/16	8 1/16 x2 1/16 x 1/4	C
26	(c.o.e.).....RP	●1825	110	....	16000	▼4755	7.50/20D	9.00/20▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	189	90–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	60 1/16	8 1/16 x2 1/16 x 1/4	C
27	(c.o.e.).....RR	●1860	134	....	16000	▼4805	7.50/20D	9.00/20▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	189	90–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	84 1/16	8 1/16 x2 1/16 x 1/4	C
28	(c.o.e.).....RS	●1895	158	....	16000	▼4900	7.50/20D	9.00/20▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	189	90–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	108 1/16	8 1/16 x2 1/16 x 1/4	C
29	.....RV	1470	137	....	16000	▼4230	7.50/20D	9.00/20▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	192	93–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	60	8 1/16 x2 1/16 x 1/4	C
30	.....RW	1505	161	....	16000	▼4290	7.50/20D	9.00/20▼	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	192	93–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	84	8 1/16 x2 1/16 x 1/4	C
31	(School bus) .RX	1550	199	....	15000	▼4715	7.50/20D	8.25/20	O-Load Mas.	6-3 1/16 x3 11/16	235	6.6	192	93–3100	4– ♦ ♦ ♦	Y	Own	4	²Own	HyF	H	6.17	Own	O4IH	330	478	Co	2I	....	8 11/16 x2 11/16 x 1/4	C
32	Corbitt■.....18BG	.....	181	....	18000	.....	9.00/20	10.00/20	Con M6330	6-4x4 3/4	330	6.1	246	104–2800	7–2 5/16x12	Y	Cla 205V	5	TimH100DPH	....	H	**–5.29	Tim 32502H	B4IHV	.....	.....	a	TX	.....	8x3 1/4 x 1/4	T
33	.....22BG	.....	190	....	22000	.....	10.00/20	10.00/22	Con B6371	6-4 1/2x4 5/8	371	6.0	280	100–2600	7–2 1/16x13 1/2	Y	Fu 5A43	5	Tim L100DPH	....	H	**–5.29	Tim 35000H	B4IHV	.....	.....	a	TX	.....	8x3 1/4 x 1/4	T
34	.....25BG	.....	200	....	25000	.....	10.00/22	11.00/22	Con B6427	6-4 1/4x4 7/8	427	5.9	325	127–2600	7–2 1/16x13 1/2	Y	Fu 5A43	5	Tim Q100P	....	H	**–6.17	Tim 35100TW	Ws4IA	.....	.....	a	TX	.....	8 1/16 x3 1/4 x 1/4	T
35	(T).....18TG	.....	137	....	18000	.....	9.00/20	10.00/20	Con M6330	6-4x4 3/8	330	6.1	246	104–2800	7–2 5/16x12	Y	Cla 205V	5	Tim H100P‡‡	....	H	**–5.29	Tim 32505TW	Ws4IA	.....	.....	a	TX	.....	7 1/16 x3 1/4 x 1/4	T
36	(T).....H18TG	.....	137	....	20000	.....	10.00/20	.....	Con M6330	6-4x4 3/4	330	6.1	246	104–2800	7–2 5/16x12	Y	Cla 205V	5	Tim L100P‡‡	....	H	**–5.29	Tim 32505TW	Ws4IA	.....	.....	a	TX	.....	7 1/16 x3 1/4 x 1/4	T
37	(T).....22TG	.....	144	....	22000	.....	10.00/20	10.00/22	Con B6427	6-4 1/4x4 7/8	427	5.9	325	127–2600	7–2 1/16x13 1/2	Y	Fu 5A43	5	Tim L100P‡‡	....	H	**–5.29	Tim 35000TW	Ws4IA	.....	.....	a	TX	.....	8x3 1/4 x 1/4	T
38	(T).....H22TG	.....	144	....	24000	.....	10.00/22	.....	Con B6427	6-4 1/4x4 7/8	427	5.9	325	127–2600	7–2 1/16x13 1/2	Y	Fu 5A43	5	Tim Q100P‡‡	....	H	**–5.29	Tim 35100TW	Ws4IA	.....	.....	a	TX	.....	8x3 1/4 x 1/4	T
39	(T).....25TG	.....	148	....	25000	.....	10.00/22	11.00/22	Con R6513	6-4 1/2x5 3/8	513	5.9	400	170–2600	7–3 1/4 x—	Y	Spi 6253	5	Tim Q100P‡‡	....	H	**–6.17	Tim 35100TW	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
40	(T).....H25TG	.....	148	....	25000	.....	10.00/22	.....	Con R6513	6-4 1/2x5 3/8	513	5.9	400	170–2600	7–3 1/4 x—	Y	Spi 6253	5	Tim R100P‡‡	....	H	**–6.17	Tim 35100TW	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
41	(T).....28TG	.....	147	....	28000	.....	10.00/22	11.00/24	Con R6602	6-4 1/2x5 5/8	594	5.9	484	199–2600	7–3 1/4 x—	Y	Fu 5A650	5	Tim S200P‡‡	....	H	**–6.42	Tim 26450TW	Ws4IA	.....	.....	a	2D	.....	8 1/16 x3 1/4 x 1/4	T
42	(D) (T).....22TD	.....	144	....	22000	.....	10.00/20	10.00/22	Her DWXD	6-4 1/4x4 3/4	404	15	320	135–2600	.....	Y	Fu 5A430	5	Tim L300P	....	H	6.32–8.20	Tim 35000TW	Ws4IA	.....	.....	a	TX	.....	8x3 1/4 x 1/4	T
43	(D) (T)..H22TD	.....	144	....	22000	.....	10.00/22	.....	Her DWXD	6-4 1/4x4 3/4	404	15	320	135–2600	.....	Y	Fu 5A430	5	Tim Q300P	....	H	6.53–8.53	Tim 35100TW	Ws4IA	.....	.....	a	TX	.....	8x3 1/4 x 1/4	T
44	(D) (T).....25TD	.....	148	....	25000	.....	11.00/20	11.00/22	Her DRXC	6-4 5/8x5 1/4	529	14	400	148–2200	7–3 1/2x13 3/4	Y	Spi 6253	5	Tim Q300P	....	H	6.53–8.53	Tim 35000TW	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
45	(D) (T)..H25TD	.....	148	....	25000	.....	10.00/22	.....	Her DRXC	6-4 5/8x5 1/4	529	14	400	148–2200	7–3 1/2x13 3/4	Y	Spi 6253	5	Tim R300P	....	H	6.53–8.53	Tim 35000TW	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
46	(D) (T).....27TD	.....	152	....	27000	.....	10.00/22	11.00/24	Cum HB600	6-4 1/2x6	672	17	500	150–1800	7–4 1/2x16 1/2	Y	Fu 5A920	5	Tim R300P	....	H	4.92–6.42	Tim 26450W	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
47	(D) (T)..H27TD	.....	152	....	27000	.....	10.00/22	.....	Cum HB600	6-4 1/2x6	672	17	500	150–1800	7–4 1/2x16 1/2	Y	Fu 5A920	5	Tim S200P‡‡	....	H	**–6.42	Tim 26450W	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
48	(D) (T).....28TD	.....	155	....	28000	.....	10.00/22	11.00/24	Cum NHB600	6-5 1/2x6	743	15	575	200–2100	7–4 1/2x16 1/2	Y	Fu 5A920	5	Tim S200P‡‡	....	H	6.42	Tim 26450W	Ws4IA	.....	.....	a	2D	.....	8 1/16 x3 1/4 x 1/4	T
49	(T).....26TG	.....	148	....	26000	.....	10.00/22	11.00/22	Con R6602	6-4 1/2x5 5/8	602	5.9	484	199–2600	7–3 1/4 x—	Y	Fu 5A65	5	Tim R100P‡‡	....	H	** -5.29	Tim 35100TW	Ws4IA	.....	.....	a	2	.....	8 1/16 x3 1/4 x 1/4	T
50	Crosley.....B	.....	80	....	1223°°	.....	4.50/12	.....	Own	4–2 1/16x2 1/4	44	7.5	33	26–5400	5–‡	..	WG-ASI-T92	3	Spi	2F	..	** -5.17	Own	Own M	64	72	C	.....	.....	.....	.....	.....
51	Dodge.....B-1-B	.....	108	108	4850	.....	6.00/16-S	6.50/16-S	Own T-142	6-3 1/4x4 3/16	217	6.6	172	95–3600	4–2 1/16x4.8	N	NP-88670	3	Own T-142	H½	H	4.1–4.7	Own T-142	O4IH	174	264	Co	TX	40	8 1/32 x6	C
52	.....B-1-C	.....	116	116	5500	.....	TA-15-S	TA-15-S	Own T-144	6-3 1/4x4 3/16	217	6.6	172	95–3600	4–2 1/16x4.8	N	NP-88670	3	Own T-144	H½	H	4.1–4.7	Own T-144	O4IH	184	276	Co	TX	48	8 1/32 x6	C
53	.....B-1-D	.....	116	126	7500	.....	6.00/16S°	6.00/20	Own T-146	6-3 1/4x4 3/16	230	6.7	184	102–3600	4–2 1/16x4.8	N	NP-39980	3	Own T-146	HyF	H	3.9–4.8	Own T-146	O4IH	212	316	Co	TX	48	8 1/32 x6 1/2	C
54	.....B-1-FL	.....	128	152	9500	.....	6.00/20S‡	6.50/20	Own T-148	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-39760	4	Own T-148	HyF	H	5.6–6.8	Own T-148	O4IH	336	479	Ce	TX	60	21x2 3/4 x7	C
55	.....B-1-F	.....	128	192	14500	.....	6.00/20S‡	7.50/20	Own T-148	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-39760	4	Own T-148	HyF	H	5.6–6.8	Own T-148	O4IH	336	479	Ce	TX	60	21x2 3/4 x7	C
56	.....B-1-FA	.....	128	192	14500	.....	6.50/20- D	8.25/20	Own T-148	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-39760	4	Eat A5-1350	SFd	H	5.8–8.1	Own T-148	O4IH	336	479	Ce	TX	60	21x2 3/4 x7	C
57	.....B-1-H	.....	128	192	15500	.....	7.00/20▲	8.25/20	Own TX-148	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-39760	4	Own TX-148	HyF	H	5.6–6.8	Own TX-148	O4IHV	336	479	Ce	TX	60	21x2 3/4 x7	C
58	.....B-1-HA	.....	128	192	15500	.....	7.00/20▲	8.25/20	Own TX-148	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-39760	4	Eat A5-1350	SFd	H	5.8–8.1	Own TX-148	O4IHV	336	479	Ce	TX	60	21x2 3/4 x7	C
59	.....B-1-FM	.....	107	161	14750	.....	6.00/20‡S	7.50/20	Own T-152	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-88070	4	Own T-152	HyF	H	5.6–6.8	Own T-152	O4IH	336	479	Ce	TX	60	1 1/32 x2 3/4 x7	C
60	(c.o.e.) B-1-FMA	.....	107	161	14750	.....	6.50/20- D	8.25/20	Own T-152	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-88070	4	Eat A5-1350	SFd	H	5.8–8.1	Own T-152	O4IH	336	479	Ce	TX	60	1 1/32 x2 3/4 x7	C
61	(c.o.e.)..B-1-HM	.....	107	161	15750	.....	7.00/20▲	8.25/20	Own TX-152	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	N	NP-88070	4	Own TX-152	HyF	H	5.6–6.8	Own TX-152	O4IHV	336	479	Ce	TX	60	1 1/32 x2 3/4 x7	C
62	(c.o.e.) B-1-HMA	.....	107	161	15750	.....	7.00/20▲	8.25/20	Own TX-152	6-3 1/16x4 1/4	236	6.6	192	109–3600	4–2 1/2x5.054	Y	NP-88070	4	Eat A5-1350	SFd	H	5.8–8.1	Own TX-152	O4IHV	336	479	Ce	TX	60	1 1/32 x2 3/4 x7	C
63	.....B-1-JL	.....	128	212	16500	.....	6.00/20	8.25/20	Own T-150	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88400	5	Own T-150	HyF	H	6.2–7.1	Own T-150	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
64	.....B-1-JAL	.....	128	212	16500	.....	6.00/20	8.25/20	Own T-150	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88400	5	Eat A5-1350	SFd	H	5.8–8.1	Own T-150	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
65	.....B-1-KAL	.....	128	212	17000	.....	7.50/20§	9.00/20°	Own TX-150	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88400	5	Eat 6500	SFd	H	6.1–8.5	Own TX-150	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
66	(c.o.e.) B-1-JML	.....	107	161	16750	.....	6.00/20	8.25/20	Own T-154	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88410	5	Own T-154	HyF	H	6.2–7.1	Own T-154	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
67	(c.o.e.)B-1-JMAL	.....	107	161	16750	.....	6.00/20	8.25/20	Own T-154	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88410	5	Eat A5-1350	SFd	H	5.8–8.1	Own T-154	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
68	(c.o.e.)B-1-KMAL	.....	107	161	17250	.....	7.50/20§	9.00/20°	Own TX-154	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88410	5	Eat 6500	SFd	H	6.1–8.5	Own TX-154	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
69	.....B-1-J	.....	128	212	16500	.....	6.50/20D	8.25/20	Own T-150	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88400	5	Own T-150	HyF	H	6.2–7.1	Own T-150	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
70	.....B-1-JA	.....	128	212	16500	.....	6.50/20D	8.25/20	Own T-150	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88400	5	Eat A5-1350	SFd	H	5.8–8.1	Own T-150	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
71	.....B-1-KA	.....	128	212	17000	.....	7.50/20§	9.00/20°	Own TX-150	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88400	5	Eat 6500	SFd	H	6.1–8.5	Own TX-150	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
72	.....B-1-JM	.....	107	161	16750	.....	6.50/20D	8.25/20	Own T-154	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88410	5	Own T-154	HyF	H	6.2–7.1	Own T-154	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
73	.....B-1-JMA	.....	107	161	16750	.....	6.50/20D	8.25/20	Own T-154	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88410	5	Eat A5-1350	SFd	H	5.8–8.1	Own T-154	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C
74	.....B-1-KMA	.....	107	161	17250	.....	7.50/20§	9.00/20°	Own TX-154	6-3 1/16x4 1/2	250	6.6	204	114–3600	4–2 1/2x5.054	Y	NP-88410	5	Eat 16500 lb.	SFd	H	6.1–8.5	Own TX-154	O4IHV	396	553	c	TX	60	1 1/32 x2 11/16 x8 1/4	C

●—8.25/20 front tires are required when 9.00/20 dual rears are used.
°°—Pick-up truck: panel delivery 1265.
°—Rear only: front 8.25/20.

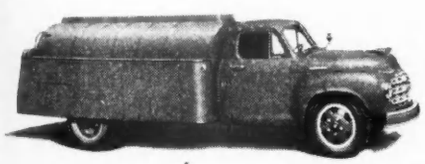
(Turn to Page 118, please)

■—Chevrolet own rear axle (5.43:1) available on Models RJ-RK-RL. Chevrolet own 2-speed rear axle (6.13–8.15:1) available at extra cost on Models RV8-RW8-RP-RP8-RB-RBS-RS-RS8-RV-RW-RX.
‡‡—Two speed axles available.
♦—7.50/17 tire is optional for Rear or Front and Rear, with no increase in G.V.W.
‡—Front only: Rear 6.50/20S.
▲—7.50/20 can be used on the front with no decrease in 15000 G. V. W. when 8.25/20 are used on dual rear wheels.
†—Forward control Chassis for Door-to-Door delivery bodies.
§—Front only: Rear 8.25/20.
▼—Front only: Rear 7.00/16S.
■—Steeper cab models available.
♦—1 Front 1.375x1.312; 3 Center 1.375x.870; 1 Rear 1.500x1.499.
††—Diameter: (Average) Front, 12.6858; Front Center, 2.7168; Rear Center, 2.7478; Rear, 2.2788; Total length, 5¾.
●—Includes cab.
▼—Front only: Rear 7.50/20D.
▲—Includes spare tire, full fuel tank and cooling system.

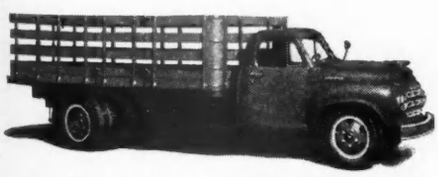
Above: Studebaker ¾-ton, 8-ft. pick-up—there's a ½-ton, 6½-ft. pick-up, too.



One-ton Studebaker shown with 9-ft. van —also available as an 8-ft. pick-up.



The new 1½-ton Studebaker truck—shown with 900-gallon tank body.



Studebaker 2-ton truck—shown with 14-ft., 171-inch wheelbase stake body.

Most revolutionary new trucks that ever wheeled a load!

New styling! New comfort! New ruggedness! Cost-cutting new performance!

HERE is the most sweeping change ever made in truck design since gasoline replaced horses!

The trucks are America's newest and finest—the sensational new 1949 Studebakers!

They're revolutionary trucks to drive as well as to look at. They introduce more time-saving, spine-saving, cost-saving improvements than any new trucks ever had.

No more slippery running boards! The steps are snugly enclosed inside the doors of the driver's cab!

No more standing on a box or fumbling under the dash panel for servicing! A new kind of "lift-the-hood" accessibility makes adjustments easy even for short men!

Huge cabs with nearly 23% increased windshield and window vision! New headroom! New legroom!

Stop in and see these Studebaker '49er trucks! Size for size, wheelbase for wheelbase, they're tops in modern design and dollar value!

NEW 1949 STUDEBAKER TRUCKS

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(Continued from Page 116)

Line Number	MAKE AND MODEL	Chassis List Price	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear Standard Front and Rear	TIRE SIZES Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings Number, Diameter and Length	Governor Standard	TRANSMISSION Make and Model	TRANSMISSION Forward Sp'ds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive & Torque	REAR AXLE Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operat'n	BRAKES SERVICE Lining Area	BRAKES SERVICE Drum Area	BRAKES SERVICE Drum Material	BRAKES Hand Location Type	C-A Dimension (Min. Std. W. B.)	FRAME Side Rail Dimensions	FRAME Type
	Dodge Cont'd																														
1	B-1-R		130	229	18500		7.50/20D	9.00/20	Own T-156	6–3¾x4¼	281	6.4	225	115–3200	7–3x11.2	Y	NP-88220	5	TimH100DPH	HyF	H	6.8–7.2	Own T-156	O4IHV	396	609	c	TX	60	⅛x2⅜x9⅜	C
2	B-1-RA		130	229	18500		7.50/20D	9.00/20	Own T-156	6–3¾x4¼	281	6.4	225	115–3200	7–3x11.2	Y	NP-88220	5	Tim H-300	HFd	H	6.1–8.8	Own T-156	O4IHV	396	609	c	TX	60	⅛x2⅜x9⅜	C
3	B-1-T		130	190	21000		7.50/20▲	10.00/20	Own T-158	6–3¾x5	331	6.5	270	128–3000	7–3x11.2	Y	NP-88450	5	Tim L-100	HyF	H	6.8–7.4	Tim 32516A1	O4IHV	424	666	c	TX	60	¼x3x10	C
4	B-1-TA		130	190	21000		7.50/20▲	10.00/20	Own T-158	6–3¾x5	331	6.5	270	128–3000	7–3x11.2	Y	NP-88450	5	Tim L-300	HFd	H	6.3–9.1	Tim 32516A1	O4IHV	424	666	c	TX	60	¼x3x10	C
5	B-1-V		130	190	23000		9.00/20†	11.00/20	Own T-158	6–3¾x5	331	6.5	270	128–3000	7–3x11.2	Y	NP-88450	5	Tim Q-100	HyF	H	6.8–7.8	Tim 35020-NX9	O4IHV	485	770	c	TX	60	¼x3x10	C
6	B-1-VA		130	190	23000		9.00/20†	11.00/20	Own T-158	6–3¾x5	331	6.5	270	128–3000	7–3x11.2	Y	NP-88450	5	Tim Q-300	HFd	H	6.5–9.5	Tim 35020-NX9	O4IHV	485	770	c	TX	60	¼x3x10	C
	School Buses																														
7	Dodge..B-1-FS-152		152	192	15000		6.50/20D	7.00/20	Own T-148	6–3⅛4x½	236	6.6	192	109–3600	4–2½x5.054	N	NP-39760	4	Own T-148	HyF	H	5.6–6.8	Own T-148	O4IH	336	479	Cc	TX		21x2¾x7	C
8	B-1-JS-212		212	212	17000		7.50/20D	8.25/20	Own T-150	6–3⅛4x½	250	6.6	204	114–3600	4–2½x5.054	Y	NP-88400	5	Own T-150	HyF	H	6.2–7.1	Own T-150	O4IHV	396	553	c	TX		⅛x2⅞x8⅛	C
9	B-1-RS-229		229	229	19000		8.25/20D	9.00/20	Own T-156	6–3¾x4¼	281	6.4	225	115–3200	7–3x11.2	Y	NP-88220	5	TimH100DPH	HyF	H	6.8–8.1	Own T-156	O4IHV	396	609	c	TX		⅛x2⅜x9⅜	C
10	Duplex T		136	220	18000	6600	8.25/20D	9.00/20	Her JXD	6–4x4¼	320	6.2	240	113–3000	7–2½x10⅜	Y	Fu 5B330	5	Tim H100	B	H	•• –7.20	Tim 32502	L4IHV	420	654	A	TX	57½	9 ⅛x3⅛x⅛	C
11	TH-404		136	220	18000	6900	8.25/20D	9.00/20	Her WXLC3	6–4¼x4¾	404	5.8	312	139–2600	7–2⅛x13¼	Y	Fu 5A430	5	Tim H-300	DF	H	6.13–8.15	Tim 32502	L4IHV	420	654	A	TX	49½	9 ⅛x3⅛x⅛	C
12	R		136	220	25000	8820	9.00/20D	10.00/20	Her WXLC-3	6–4¼x4¾	404	5.8	312	139–2600	7–2⅛x13¼	Y	Fu 5A43	5	Tim Q300	DF	R	6.53–8.53	Tim 35100	L4IHV	730	1016	A	TX	49½	9 ⅛x3⅛x⅛	C
13	JHA		148	220	28000	9800	10.00/20D	11.00/20	Her RXB	6–4½x5½	501	5.4	360	137–2400	7–3x13¼	Y	Fu 5A620	5	Tim S200	2F	R	•• –9.83	Tim 26450	Ws41A	912	1311	A	TX	61½	10 ⅛x3⅛x⅛	C
14	JH-558		148	220	28000	9800	10.00/20D	11.00/20	Her RXLD	6–4¾x5½	558	6.3	430	154–2400	7–3½x13¼	Y	FU–5A650	5	Tim S-300	DF	R	6.53–8.53	Tim 26450	Ws41A	912	1311	A	TX	60⅜	10 ⅛x3⅛x⅛	C
15	KHA		148	220	32000	10500	11.00/20D	11.00/20	Her RXC	6–4½x5¼	529	5.4	395	132–2300	7–3x13⅜	Y	Fu 5A620	5	Tim U-200	2F	R	•• –9.83	Tim 26450	Ws41A	912	1311	A	TX	60⅜	10 ⅛x3⅛x⅛	C
16	L		148	220	37000	11300	11.00/20D	11.00/20	Her RXLD	6–4¾x5¼	558	5.4	430	154–2400	7–3½x13¼	Y	Fu 5C650	5	Tim U-200	2F	R	•• –9.83	Tim 26450	Ws41A	912	1311	A	TX	60¾	10 ⅛x3⅛x⅛	C
17	Federal 16M		139	194		4460	7.50/20D	7.50/20	Her JXEF	6–3½x4¼	245	...	184	90–3100	7–2½x10⅜	N	WG T9	4	T 53547DPH	BF	H	•• –5.66	Tim 30000HX	L4IHV	310	482	a	TX	60	8⅛x2⅛x¼	T
18	16M2		139	194		4590	7.50/20D	8.25/20D	Her JXEF	6–3½x4¼	245	...	184	90–3100	7–2½x10⅜	N	WG T9	4	Tim E300DPH	dF	H	6.13–8.10	Tim 30000HX	L4IHV	310	482	a	TX	60	8⅛x2⅛x¼	T
19	18M		139	194		4700	8.25/20D	8.25/20	Her JXBF	6–3⅝x4¼	263	...	190	96–3000	7–2½x10⅜	N	WG T9	4	Tim E100DPH	SF	H	•• –6.20	Tim 30003H	LT4IHV	314	532	a	TX	60	8⅛x2⅛x¼	T
20	18M2		139	194		4830	8.25/20D	8.25/20	Her JXBF	6–3⅝x4¼	263	...	190	96–3000	7–2½x10⅜	N	WG T9	4	Tim E300DPH	dF	H	6.13–8.10	Tim 30003H	LT4IHV	314	532	a	TX	60	8⅛x2⅛x¼	T
21	25M		139	194		4950	8.25/20D	9.00/20	Her JXCF	6–3¾x4¼	282	...	212	102–3000	7–2½x10⅛	N	Cla 205VO	5	TimH100DPH	SF	H	•• –6.80	Tim 3100H	LT4IHV	346	583	a	TX	60	8⅛x2⅛x¼	T
22	25M2		139	194		5100	8.25/20D	9.00/20	Her JXCF	6–3¾x4¼	282	...	212	102–3000	7–2½x10⅛	N	Cla 205VO	5	TimH300DPH	dF	H	6.13–8.15	Tim 3100H	LT4IHV	346	583	a	TX	60	8⅛x2⅛x¼	T
23	29M		139	194		5500	9.00/20D	10.00/20	Her JXDF	6–4x4¼	320	...	250	112–2800	7–2½x10⅜	Y	Cla 205V	5	Tim L100DPH	SF	H	•• –6.83	Tim 32514H	LT4IHV	466	820	a	TX	60	8⅛x2⅛x¼	T
24	29M2		139	194		5690	9.00/20D	10.00/20	Her JXDF	6–4x4¼	320	...	250	112–2800	7–2½x10⅜	Y	Cla 205V	10	Tim L300DPH	dF	H	6.32–8.22	Tim 32514H	LT4IHV	466	820	a	TX	60	8⅛x2⅛x¼	T
25	29MA		155	194		5950	9.00/20D	10.00/20	Her JXDF	6–4x4¼	320	...	250	112–2800	7–2½x10⅜	Y	Cla 205V♦	15	Tim L100DPH	SF	H	•• –6.83	Tim 32514H	LT4IHV	466	820	a	TD	76	8⅛x2⅛x¼	T
26	29ML		139	194		5535	9.00/20D	10.00/20	Here JXLDF	6–4x4½	339	...	272	126–2800	7–2½x10⅜	Y	Cla 205V	5	Tim L100DPH	SF	H	•• –6.83	Tim 32514H	LT4IHV	466	820	a	TX	60	8⅛x2⅛x¼	†T
27	29ML2		139	194		5725	9.00/20D	10.00/20	Here JXLDF	6–4x4½	339	...	272	126–2800	7–2½x10⅜	Y	Cla 205V	10	Tim L300DPH	dF	H	6.32–8.22	Tim 32514H	LT4IHV	466	820	a	TX	60	8⅛x2⅛x¼	†T
28	29MLA		155	194		5985	9.00/20D	10.00/20	Here JXLDF	6–4x4½	339	...	272	126–2800	7–2½x10⅜	Y	Cla 205V	15	Tim L100DPH	SF	H	•• –6.83	Tim 32514H	LT4IHV	466	820	a	TD	76	8⅛x2⅛x¼	†T
29	35M		143	203		6925	9.00/20D	10.00/20	Con T6371F	6–4½x4⅝	371	...	290	133–2600	7–2⅛x13½	Y	Cla 270VO	5	Tim L100DPH	SF	R	••–6.83	Tim 32514H	LT4IHV	466	820	a	TX	60½	10⅛x3⅛x⅛	• T
30	35M2		143	203		7115	9.00/20D	10.00/20	Con T6371F	6–4½x4⅝	371	...	290	133–2600	7–2⅛x13½	Y	Cla 270VO	10	Tim L300DPH	dF	R	6.32–8.22	Tim 32514H	LT4IHV	466	820	a	TX	60½	10⅛x3⅛x⅛	• T
31	45M		143	203		8005	10.00/22D	10.00/24	Con T6427F	6–4⅜x4⅞	427	...	342	155–2600	7–2⅞x13½	Y	Cla 270VO	5	Tim Q100P	SF	R	•• –6.83	Tim 35011TW	TW4IA	606	933	a	TD	60½	10⅛x3⅛x⅛	• T
32	45M2		143	203		8380	10.00/22D	10.00/24	Con T6427F	6–4⅜x4⅞	427	...	342	155–2600	7–2⅞x13½	Y	Cla 270VO	10	Tim Q300P	dF	R	6.53–8.53	Tim 35011TW	TW4IA	606	933	a	TD	60½	10⅛x3⅛x⅛	• T
33	55M2		143	203		8635	11.00/22D	11.00/24	Con T6427F	6–4⅜x4⅞	427	...	342	155–2600	7–2⅞x13½	Y	Cla 270VO	10	Tim S300P	HyF	R	6.53–8.53	Tim 36021TW	Tw4IA	722	1051	a	TD	60½	10⅛x3⅛x⅛	• T
34	55MA		155	203		8765	11.00/22D	11.00/24	Con T6427F	6–4⅜x4⅛	427	...	342	155–2600	7–2½x13½	Y	Cla 270V♦	15	Tim S-200P	2F	R	•• –7.08	Tim 36021TW	TW4IA	722	1051	a	TD	72½	10⅛x3⅛x⅛	• T
35	60MA		155	203		9600	11.00/22D	11.00/24	Con 22RF	6–4½x5¼	501	...	384	148–2400	7–2¾x14½	Y	Fu 5A65§	15	Tim S200P	2F	R	•• –7.08	Tim 36021TW	Tw4IA	722	1051	a	FX	72½	10⅛x3⅛x⅛	• T
36	60M2		143	203		9370	11.00/22D	11.00/24	Con 22RF	6–4½x5¼	501	...	384	148–2400	7–2¾x14½	Y	Fu 5A650	10	Tim S300P	HyF	R	6.53–8.53	Tim 36021TW	Tw4IA	722	1051	a	TX	60½	10⅛x3⅛x⅛	• T
37	65M2		141	201		9995	11.00/22D	11.00/24	Con R6602F	6–4⅞x5⅝	602	...	464	200–2600	7–3¼x14½	Y	Fu 5A650	10	Tim S300P	HyF	R	6.53–8.53	Tim 36000TW	Ws41A	722	1051	a	TX	60½	10⅛x3⅛x⅛	• T
38	65MA		153	201		10225	11.00/22D	11.00/24	Con R6602F	6–4⅞x5⅝	602	...	464	200–2600	7–3¼x14½	Y	Fu 5A65§	15	Tim S200P	HyF	R	•• –7.08	Tim 36000TW	Ws41A	722	1051	a	TX	72½	10⅛x3⅛x⅛	• T
	Ford F-1																														
39	Cowl...8HC-84	930	114	114	4700	2224	6.00/16-4	6.50/16-6S	Own 7HC	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 21C	3	Own 8C	H½	H	3.73–4.27	Own 8RC	O4IH	178	259	Co	M2	40.06	5.92x2½x15	T
40	Cowl....8RC-84	960	114	114	4700	2264	6.00/16-4	6.50/16-6S	Own 8RC	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 21C	3	Own 8C	H½	H	3.73–4.27	Own 8RC	O4IH	178	259	Co	M2	40.06	5.92x2½x15	T
	F-2																														
41	Cowl....8HD-84	1045	122	122	5700	2612	6.50/16-6	7.00/16-6S	Own 7HD	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 51Y	4	Own 8RD	8F	H	•• –4.86	Own 8RD	O4IH	167	264	Co	M2	48.06	6x2¼x.19	T
42	Cowl....8RD-84	1075	122	122	5700	2652	6.50/16-6	7.00/16-6S	Own 8RD	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 51Y	4	Own 8RD	8F	H	•• –4.86	Own 8RD	O4IH	167	264	Co	M2	48.06	6x2¼x.19	T
	F-3																														
43	Cowl....8HY-84	1120	122	122	6800	2847	7.00/17-6S	7.50/17-8S	Own 7HY	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 51Y	4	Own 8RY	8F	H	•• –4.86	Own 8RY	O4IH	188	308	Co	M2	48.06	6x2¼x.19	T
44	Cowl....8RY-84	1150	122	122	6800	2887	7.00/17-6S	7.50/17-8S	Own 8RY	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 51Y	4	Own 8RY	8F	H	•• –4.86	Own 8RY	O4IH	188	308	Co	M2	48.06	6x2¼x.19	T
	F-4																														
45	Cowl...8HTL-84	1175	134	134	10000	3182	7.00/20-8S	7.00/18-8	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RTL	8F	H	5.14–5.86	Own 7RTL	O4IH	302	506	Co	TX	60.06	7x2¾x.21	T
46	Cowl...8RTL-84	1205	134	134	10000	3222	7.00/20-8S	7.00/18-8	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RTL	8F	H	5.14–5.86	Own 7RTL	O4IH	302	506	Co	TX	60.06	7x2¾x.21	T
	F-5																														
47	Cowl....8HT-84	1220	134	134	14000	3658	6.50/20-6	7.50/20-8	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RT	O4IH	302	506	Co	TX	60.06	7x2¾x.21	L
48	Cowl....8RT-84	1250	134	134	14000	3698	6.50/20-6	7.50/20-8	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RT	O4IH	302	506	Co	TX	60.06	7x2¾x.21	L
49	Cowl...8HST-84	1250	158	158	14000	3748	6.50/20-6	7.50/20-8	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RT	O4IH	302	506	Co	TX	84.06	7x2¾x.21*	LT
50	Cowl...8RST-84	1280	158	158	14000	3788	6.50/20-6	7.50/20-8	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RT	O4IH	302	506	Co	TX	84.06	7–2¾x.21*	LT
	F-5 C.O.E.																														
51	Cab...8HOW-81	1605	110	110	14000	▲4108	6.50/20-6	7.50/20-8	Own 7HW	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RW	O4IH	302	506	Co	TX	60.06	7x2¾x.21*	LT
52	Cab...8ROW-81	1635	110	110	14000	▲4148	6.50/20-6	7.50/20-8	Own 8RW	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RW	O4IH	302	506	Co	TX	60.06	7x2¾x.21*	LT
53	Cab....8HW-81	1635	134	134	14000	▲4268	6.50/20-6	7.50/20-8	Own 7HW	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RW	O4IH	302	506	Co	TX	84.06	7.08x2.8x¼*	LT
54	Cab....8RW-81	1665	134	134	14000	▲4308	6.50/20-6	7.50/20-8	Own 8RW	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RW	O4IH	302	506	Co	TX	84.06	7.08x2.8x¼*	LT
55	Cab...8HSW-81	1665	158	158	14000	▲4368	6.50/20-6	7.50/20-8	Own 7HW	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RW	O4IH	302	506	Co	TX	108.1	7.08x2.8x¼*	LT
56	Cab...8RSW-81	1695	158	158	14000	▲4408	6.50/20-6	7.50/20-8	Own 8RW	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RW	O4IH	302	506	Co	TX	108.1	7.08x2.8x¼*	LT
	F-5 School Bus																														
57	Bus Cl..8HST-84	1315	158	158	12000	3855	6.50/20-6	7.00/20-8	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RT	O4IH	302	506	Co	TX	128♦	7x2¾x.21*	LT
58	Bus Cl..8RST-84	1345	158	158	12000	3895	6.50/20-6	7.00/20-8	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RT	O4IH	302	506	Co	TX	128♦	7x2¾x.21*	LT
59	Bus Cl..8H4T-84	1530	194	194	15000	4209	7.50/20-8	8.25/20-10	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RT	SF	H	5.14–6.67	Own 7RTH	O4IH	302	506	Co	TX	164♦	7.08x2.8x¼*	LT
60	Bus Cl..8R4T-84	1560	194	194	15000	4249	7.50/20-8	8.25/20-10	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RT	SF	H	5.14–5.67	Own 7RTH	O4IH	302	506	Co	TX	164♦	7.08x2.8x¼*	LT
	F-6																														
61	Cowl..8HTH-84	1610	134	134	15500	4024	7.50/20-8	8.25/20-10	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RTH	O4IHV	302	506	Co	TX	60.06	7.08x2.8x¼*	LT
62	Cowl..8RTH-84	1640	134	134	15500	4064	7.50/20-8	8.25/20-10	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RTH	O4IHV	302	506	Co	TX	60.06	7.08x2.8x¼*	LT
63	Cowl..8HSTH-84	1640	158	158	15500	4124	7.50/20-8	8.25/20-10	Own 7HT	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RTM■	SF	H	5.82–8.11	Own 7RTH	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼*	LT
64	Cowl..8RSTH-84	1670	158	158	15500	4164	7.50/20-8	8.25/20-10	Own 8RT	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RTH	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼*	LT
	F-6 C.O.E.																														
65	Cab..8HOWH-81	1990	110	110	16000	▲4524	7.50/20-8	8.25/20-10	Own 7HW	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RW	O4IHV	302	506	Co	TX	60.06	7x2¾x.21*	LT
66	Cab..8ROWH-81	2020	110	110	16000	▲4564	7.50/20-8	8.25/20-10	Own 8RW	8–3⅛x3¾	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RW	O4IHV	302	506	Co	TX	60.06	7x2¾x.21*	LT
67	Cab...8HWH-81	2020	134	134	16000	▲4684	7.50/20-8	8.25/20-10	Own 7HW	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RW	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼*	LT

(Turn to Page 120, please)

1—Front only; Rear 10.00/20.
2—Front only; Rear 8.25/20.
3—For shorter wheelbases 8¼x2¾x⅛.
4—Cowl to Axle.
5—For shorter wheelbases—10x3¼x⅛.
6—Auxiliary trans. Spicer 623D, three forward speeds.
7—Auxiliary trans. Spicer 703F, three forward speeds.
8—Weights apply to cab chassis models.
■—Two speed rear axle with vacuum shift.
•—Reinforcement 8.56x2.21x.125, inside Siderail from Front to Rear Spring Brackets.

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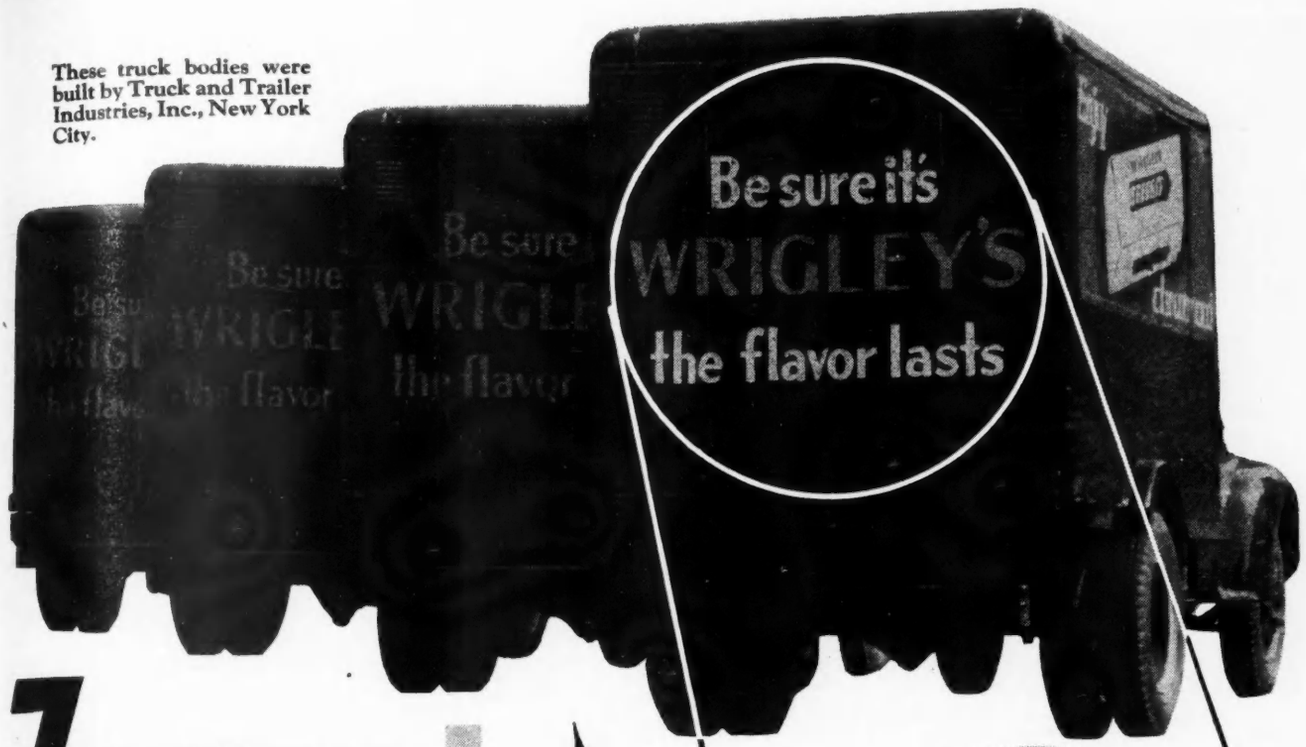
(Continued from Page 118)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear Standard Front and Rear	TIRE SIZES Maximum Authorized Tire Size (Dual unless noted)	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings Number, Diameter and Length	Governor Standard	TRANS-MISSION Make and Model	Forward Sp'ds	REAR AXLE Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME Side Rail Dimensions	FRAME Type
	Ford, Continued																													
1	F-6 C. O. E. Cont'd																													
2	Cab...8RWH-81	2050	134	134	16000	▲4724	7.50/20-8	8.25/20-10	Own 8RW	8–3 7/8 x3 3/4	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RW	O4IHV	302	506	Co	TX	84.06	7.08x2.8x1/4*	LT
3	Cab...8HSWH-81	2050	158	158	16000	▲4784	7.50/20-8	8.25/20-10	Own 7HW	6–3.3x4.4	226	6.8	180	95–3300	4–2.87x4.8	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RW	O4IHV	302	506	Co	TX	108.1	7.08x2.8x1/4*	LT
4	Cab...8RSWH-81	2080	158	158	16000	▲4824	7.50/20-8	8.25/20-10	Own 8RW	8–3 7/8 x3 3/4	239	6.8	180	100–3800	3–2.49x4.9	N	Own 41T	4	Own 7RTM■	SF	H	5.83–8.11	Own 7RW	O4IHV	302	506	Co	TX	108.1	7.08x2.8x1/4*	LT
	F-7																													
5	Cowl...8EQ-84	2685	135	135	19000	5388	8.25/20-10	9.00/20-10	Own 8EQ	8–3 1/2 x4 3/4	337	6.4	255	145–3600	3–2.87x5.0	Y	Own 7EQ	5	Own 7EQ	Hy	H	6.8	Own 7EQ	O4IHV	350	583	Co	TX	61.06	9x3x.25	T
6	Cowl...8E9Q-84	2735	159	159	19000	5498	8.25/10-10	9.00/20-10	Own 8EQ	8–3 1/2 x4 3/4	337	6.4	255	145–3600	3–2.87x5.0	Y	Own 7EQ	5	Own 7EQ	Hy	H	6.8	Own 7EQ	O4IHV	350	583	Co	TX	85.06	9x3x.25	T
7	Cowl...8E5Q-84	2785	195	195	19000	5618	8.25/20-10	9.00/20-10	Own 8EQ	8–3 1/2 x4 3/4	337	6.4	255	145–3600	3–2.87x5.0	Y	Own 7EQ	5	Own 7EQ	Hy	H	6.8	Own 7EQ	O4IHV	350	583	Co	TX	121.1	9x3x.25	T
	F-8																													
8	Cowl..8EQH-84	3335	135	135	21500	5944	9.00/20-10	10.0/20-12	Own 8EQ	8–3 1/2 x4 3/4	337	6.4	255	145–3600	3–2.87x5.0	Y	Own 7EQH	5	Own 7EQH■	SF	H	6.5 –8.87	Own 7EQ	O4IHV	485	729	C	TX	61.06	9x3x.25	T
9	Cowl..8E9QH-84	3385	159	159	21500	6054	9.00/20-10	10.0/20-12	Own 8EQ	8–3 1/2 x4 3/4	337	6.4	255	145–3600	3–2.87x5.0	Y	Own 7EQH	5	Own 7EQH■	SF	H	6.5 –8.87	Own 7EQ	O4IHV	485	729	C	TX	85.06	9x3x.25	T
10	Cowl..8E5QH-84	3435	195	195	21500	6174	9.00/20-10	10.0/20-12	Own 8EQ	8–3 1/2 x4 3/4	337	6.4	255	145–3600	3–2.87x5.0	Y	Own 7EQH	5	Own 7EQH■	SF	H	6.5 –8.87	Own 7EQ	O4IHV	485	729	C	TX	121.1	9x3x.25	T
11	Intern'l (2)...KB-1	960	113	125	4400	2250	6.00/16-4	7.00/16	Own GRD214	6–3 7/8 x4 1/2	213	6.3	160	82–3400	4–2 1/2 x6	N	Own HDS-B	3	Own R1050	S1/2	H	3.72–5.11	Own F50	L41H	164	316	e	FX	38	6x2 1/4 x1/4	T
12	.....KB-1M	875	102	113	4600	2150	6.00/16-4	6.50/16-6	Own GRD214	6–3 7/8 x4 1/2	213	6.3	160	82–3400	4–2 1/2 x6	N	O SA-HDS-B	3	Own R1050	S1/2	H	3.72–5.11	Own F150	L41H	164	316	e	FX	.....	6 1/4 x2 1/4 x	T
13	.....KB-2	1010	125	125	5200	2285	6.00/16-4	7.00/16-6	Own GRD214	6–3 7/8 x4 1/2	213	6.3	160	82–3400	4–2 1/2 x6	N	Own HDS-B	3	Own R1050	S1/2	H	3.72–5.11	Own F50	L41H	164	316	e	FX	50	6 1/4 x2 1/4 x	T
14	.....KB-3	1150	130	....	6650	3000	7.00/16-6	7.50/16-6	Own GRD214	6–3 7/8 x4 1/2	213	6.3	160	82–3400	4–2 1/2 x6	N	Own HDS-B	3	Own R1150	S1/2	H	4.22–5.28	Own F150	L41H	195	367	e	FX	55	6 1/4 x2 1/4 x	T
15	.....KB-3M	1050	102	113	7000	2585	7.00/16-6	7.50/16-8	Own GRD214	6–3 7/8 x4 1/2	213	6.3	160	82–3400	4–2 1/2 x6	N	Own H41B	4	Own R1150	SF	H	4.22–5.28	Own F150	L41H	221	367	e	FX	.....	6 1/4 x2 1/4 x	T
16	(a).....KB-5	1320	135	177	13500	3705	6.50/20D	8.25/20	O-GRD 233	6–3 7/8 x4 1/2	233	6.3	181	93–3400	4–2 1/2 x5	N	Own H41B	4	Own R1360	SF	H	5.28–7.16	Own F350	LH4IH	294	509	e	FX	60	8x3x	T
17	(a).....KB-6	1775	134	176	14500	4625	7.00/20D	8.25/20	Own BLD250	6–3 7/8 x4 1/2	251	6.3	200	100–3200	4–2 1/2 x5	N	Own WT97A	5	Own R1560	SF	H	5.62–7.16	Own 16F470	LH4IHV	305	539	e	FX	60	8 1/4 x3x	T
18	(a).....KB-7	2350	134	176	16500	5055	7.50/20D	9.00/20	O-BLD 269	6–3 7/8 x4 1/2	269	6.3	222	100–3000	4–2.7x5	N	Own F51	5	Own R1560	SF	H	6.50–7.16	Own F470	LH4IHV	368	633	e	FX	60	8 1/4 x3x	T
19	(a).....KB-8	3400	137	197	20000	6580	9.00/20D	10.00/24	O-RED 361	6–4 1/2 x4 1/2	361	6.3	282	126–3000	7–3 1/4 x10	Y	Own F51	5	Own R1572	SF	H	6.43–8.51	Own F553	LH4IHV	407	709	e	FX	60	8	T
20	(a).....KB-10	4150	149	197	22500	7405	10.00/20D	11.00/24	Own RED401	6–4 1/2 x5	401	6.3	318	140–2800	7–3 1/4 x10	Y	Own F52	5	Own R1676	SF	H	6.43–8.05	Own F653	LH4IHV	484	829	e	FX	72	9 1/2 x3 1/2 x	T
21	(a).....KB-11	5600	149	197	27000	8430	10.00/20D	12.00/24	O-RED 450	6–4 1/2 x5	450	6.3	361	148–2600	7–3 1/4 x10	Y	Own F54	5	Tim R100	Hy	H	6.42–8.05	Own F750	WW4IA	746	1030	G	FX	72	10x3 1/2 x	T
22	(a).....KB-12	6550	155	215	28500	9175	11.00/20	12.00/20	O-Con. R6586	6–4 1/2 x5 1/2	586	6.0	475	200–2600	7–3 1/4 x13	Y	Own F55	5	Tim R100	Hy	H	** –6.42	Own F750	BW41A	746	....	GS	FX	66	10x3 1/2 x	C
23	(a).....KBR-14	7150	161	215	32000	10100	11.00/20	12.00/24	O-Con. R6586	6–4 1/2 x5 3/4	586	6.0	475	200–2600	7–3 1/4 x13	Y	Own F55B	5	Tim U200P	2F	H	**–7.08	Own F750	BW41A	746	....	GS	FX	72	10x3 1/2 x	L
24	.....W-3042-L	9900	179	227	30000	12530	10.00/20	11.00/22	Cum HB600	6–5 1/2 x5 1/2	672	17	554	254–2600	7–3 1/4 x15 3/4	Y	Spl 7741	4	Tim R-100	Hy	H	** –6.42	Own S6303	BW41A	690	....	G	FX	84	10x3 1/2 x	C
25	.....W-4042-OH	11250	170	230	40000	13115	10.00/20	14.00/24	Cum HB600	6–4 1/2 x6	672	17	492	150–1800	7–4 1/2 x..	Y	Spl 7741	4	Tim 79750PA	2F	H	7.69–11.36	Own 82F	BW41A	656	....	G	FX	72	10x3 1/2 x	C
26	Kenworth(D)..521	.....	161	215	35000	12200	10.00/20	11.00/22	Cum HB6	6–4 1/2 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	BL 8241	4	Tim U200P	DR	H	6.42–7.84	Tim 36000TW	Ws4IA	752	1050	a	TD	72	9 1/2 x3 1/4 x	C
27	585	.....	150	215	30000	10130	10.00/20	11.00/22	Bu LO525	6–4 1/2 x5 1/2	525	5.5	385	150–2200	7–3x11 1/2	Y	Fu 5A620	5	Tim U200P	....	....	6.14	Tim 36000TW	Ws4IA	752	....	a	....	70	9 1/2 x3 1/4 x	....
28	Linn.....L-2	.....	120	....	9000	6000	7.50 /20S	8.25/20S	Her QXC3	6–3 3/4x4 1/2	221	...	159	77–3200	7–1 1/4 x10	N	WGT9	4	Own 600	N	N	None	Tim F30B28H	L4IH	306	478	a	T	.....	None	....
29	.....L-4	.....	156	....	9200	6200	7.50 /20S	8.25/20	Her QXC3	6–3 1/2x4 1/2	221	...	159	77–3200	7–1 1/4 x10	N	WGT9	4	Own 600	N	N	None	Tim F30B28H	L4IH	306	478	a	X	.....	None	....
30	.....L-6	.....	169	....	12700	7700	7.50 /20D	8.25 /20	Her JXE3	6–3 1/2x4 1/2	245	6.5	184	91–3200	7–2 1/2 x10	N	WGT9	4	Own 600T	N	N	None	Tim F30B28H	L6IH	486	744	a	X	.....	None	....
31	.....L-8	.....	205	....	12900	7900	7.50 /20D	8.25 /20	Her JXE3	6–3 1/2x4 1/2	245	6.5	184	91–3200	7–2 1/2 x10	N	WGT9	4	Own 600T	N	N	None	Tim F30B28H	L6IH	486	744	a	X	.....	None	....
32	Mar. Her...DVL-4	.....	90	118	‡6750	.....	7.50/16S	8.25/18S	Willys MB	4–3 1/8 x4 3/8	134	6.4	105	60–4000	3–2.33x5.48	Y	Own	3	(Front Drive)	.....	.....	7.10	Own	4IH	202	327	M2	.....	.....	None	....
33	Peterbilt(D)270DD	.....	165	Opt	35000	12500	10.00/20D	11.00/22	Cum HB600	6–4 1/2 x6	672	17.	500	150–1800	7–4 1/2 x16 1/2	Y	Spl 7741	12	U-200P	2F	R	** –6.42	Tim 36000W	Ws4IA	800	1250	a	FD	80 1/2	10 1/2 x3 1/2 x	TL
34	Reo.....D-19XA	.....	125	125	8000	4340	▲7.00 /20S	8.25 /20S	Own GC 245	6–3 1/2x4 1/2	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	Tim 53547	SF	H	5.66–6.67	Tim 30000	T41H▼	310	482	var	TX	60 1/8	9x3x 1/4	T
35	.....D-19A	.....	125	125	14000	4740	▲7.50 /20	8.25 /20	Own GC 245	6–3 1/2x4 1/2	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	T53547–E300	SFd	H	5.66–6.67*	Tim 30000	T41VH▼	310	482	var	TX	60 1/8	9x3x 1/4	T
36	.....D-19T	.....	125	125	14000	5330	▲8.25/20	8.25 /20	Own GC 245	6–3 1/2x4 1/2	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	Tim E300	HFd	H	6.13&8.10	Tim 30000	T41VH▼	310	482	var	TX	60 1/8	9x3x 1/4	T
37	.....D-19B	.....	150	150	14000	4900	▲7.50/20	8.25 /20	Own GC 245	6–3 1/2x4 1/2	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	T53547–E300	SFd	H	5.66–6.67*	Tim 30000	T41VH▼	310	482	var	TX	85 1/8	9x3x 1/4	T
38	.....D-19C	.....	165	165	14000	5090	▲7.50/20	8.25 /20	Own GC 245	6–3 1/2x4 1/2	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	T53547–E300	SFd	H	5.66–6.67*	Tim 30000	T41VH▼	310	482	var	TX	100 1/8	9x3x 1/4	T
39	.....D-19L	.....	187	187	14000	5080	▲8.25/20	8.25 /20	Own GC 245	6–3 1/2x4 1/2	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	T53547–E300	SFd	H	5.66–6.67*	Tim 30000	T41VH▼	310	482	var	TX	123 1/8	9x3x 1/4	T
40	.....D-21A	.....	125	125	15500	4920	▲7.50/20	8.25 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	WG T97	4	Tim E100	HF	H	5.66–6.2	Tim 31013	T41VH▼	310	482	var	TX	60 1/8	9x3x 1/4	T
41	.....D-21T	.....	125	125	15500	5380	▲8.25/20	8.25 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	WG T97	4	Tim E300	HFd	H	6.13&8.10	Tim 31013	T41VH▼	310	482	var	TX	60 1/8	9x3x 1/4	T
42	.....D-21B	.....	150	150	15500	5230	▲8.25/20	8.25 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	WG T97	4	Tim E100	HF	H	5.66–6.2	Tim 31013	T41VH▼	310	482	var	TX	85 1/8	9x3x 1/4	T
43	.....D-21C	.....	165	165	15500	5270	▲8.25/20	8.25 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	WG T97	4	Tim E100	HF	H	5.66–6.2	Tim 31013	T41VH▼	310	482	var	TX	100 1/8	9x3x 1/4	Tf
44	.....D-21R-A	.....	130	130	18000	6040	▲9.00/20	9.00 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H200–300	HFd	H	7.3*	Tim 31104	T41VH▼	344	584	var	TX	65 1/8	9x3x 1/4	T
45	.....D-21R-T	.....	130	130	18000	6380	▲9.00/20	9.00 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H300	HFd	H	6.13&8.15	Tim 31104	T41VH▼	344	584	var	TX	65 1/8	9x3x 1/4	T
46	.....D-21R-B	.....	150	150	18000	6080	▲9.00/20	9.00 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H100–300	HFd	H	5.28–6.8*	Tim 31104	T41VH▼	344	584	var	TX	85 1/8	9x3x 1/4	T
47	.....D-21R-C	.....	165	165	18000	6180	▲9.00/20	9.00 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H100–300	HFd	H	5.28–6.8*	Tim 31104	T41VH▼	344	584	var	TX	100 1/8	9x3x 1/4	Tf
48	.....D-21R-L	.....	185	185	18000	6430	▲9.00/20	9.00 /20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H100–300	HFd	H	5.28–6.8*	Tim 31104	T41VH▼	344	584	var	TX	120 1/8	9 1/4x3 1/4 x	Tf
49	.....D-22A	.....	130	130	20500	6220	▲9.00/20	9.00 /20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H300	HFd	H	6.13&8.15	Tim 31104	T41VH▼	344	584	var	TX	65 1/8	9 1/4x3 1/4 x	T
50	.....D-22T	.....	130	130	20500	6630	▲9.00/20	9.00 /20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H300	HFd	H	6.13&8.15	Tim 31104	T41VH▼	344	584	var	TX	65 1/8	9 1/4x3 1/4 x	T
51	.....D-22B	.....	150	150	20500	6140	▲9.00/20	9.00 /20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H Series	HFd	H	6.16–7.3*	Tim 31104	T41VH▼	344	584	var	TX	85 1/8	9 1/4x3 1/4 x	T
52	.....D-22C	.....	165	165	20500	6380	▲9.00/20	9.00 /20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H Series	HFd	H	6.16–6.8*	Tim 31104	T41VH▼	344	584	var	TX	100 1/8	9 1/4x3 1/4 x	Tf
53	.....D-22L	.....	185	185	20500	6430	▲9.00/20	9.00 /20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim H100–300	HFd	H	6.16*	Tim 31104	T41VH▼	344	584	var	TX	120 1/8	9 1/4x3 1/4 x	Tf
54	.....D-22R-B	.....	150	150	20500	6480	▲9.00/20	9 00 /20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 205V–VO	5	Tim L100–200	HF2	H	6.83–8.22	Tim 32500	T41VH▼	370	640	var	TX	85 1/8	9 1/4x3 1/4 x	T
55	.....D-23T	.....	130	130	23000	8000	▲9.00/20	11.00/20	Con T-6427	6–4 1/4 x4 7/8	427	6.2	336	153–2800	7–2 1/4x13.6	Y	Cla 270V–VO	5	Tim L100–300	HFd	H	5.28–6.16*	Tim 32500	Ws41A	514	644	var	TX	65 1/8	9 1/4x3 1/4 x	T
56	.....D-23L	.....	185	185	23000	7900	▲10.00/20	11.00/20	Con T-6427	6–4 1/4 x4 7/8	427	6.2	336	153–2800	7–2 1/4x13.6	Y	Cla 270V–VO	5	Tim L100	HF	H	6.16	Tim 32500	Ws41A	514	644	var	TX	120 1/8	9 1/4x3 1/4 x	Tf
57	.....D-23R-T	.....	130	130	25000	8580	▲10.00/20	11.00/20	Con T-6427	6–4 1/4 x4 7/8	427	6.2	336	153–2800	7–2 1/4x13.6	Y	Cla 270V–VO	5	Tim Q100–300	HFd	H	5.28–6.16*	Tim 35011	Ws41A	638	934	var	TX	65 1/8	9 1/4x3 1/4 x	T
58	.....D-23R-B	.....	150	150	25000	8570	▲10.00/20	11.00/20	Con T-6427	6–4 1/4 x4 7/8	427	6.2	336	153–2800	7–2 1/4x13.6	Y	Cla 270V–VO	5	Tim S200	HF2	H	7.84*	Tim 35011	Ws41A	712	1038	var	TX	85 1/8	9 1/4x3 1/4 x	T
59	.....D-23R-BL	.....	150	150	25000	9040	▲10.00/20	11.00/20	Con T-6427	6–4 1/4 x4 7/8	427	6.2	336	153–2800	7–2 1/4x13.6	Y	Cla 270VO&v	15	Tim S200	HF2	H	7.84*	Tim 35011	Ws41A	712	1038	var	TX	85 1/8	9 1/4x3 1/4 x	T
60	.....D-23R-L	.....	185	185	25000	8300	▲10.00/20	11 00/20	Con T-6427	6–4 1/4 x4 7/8	427	6	336	153–2800	7–2 1/4x13.6	Y	Cla 270V–VO	5	Tim Q100–300	HFd	H	6.16*	Tim 35011	Ws41A	638	934	var	TX	120 1/8	9 1/4x3 1/4 x	Tf
61	.....30-A	.....	△145	145	32000	11000	▲11.00/20	11.00/24	Con R-6513	6–4 1/2x5 5/8	513	5	9400	173–2800	7–3 1/4x14.7	Y	Spi6252A-53◆	5	TS300–U200	HFd	H	7.84*	Tim 36000	Ws41A	722	1038	var	TI	67	10 1/4x3 1/4 x	T
62	.....30-B	.....	△165	165	32000	11750	▲11.00/20	11.00/24	Con R-6513	6–4 1/2x5 5/8	513	5.	9400	173–2800	7–3 1/4x14.7	T	Spi6252A-53◆	5	TS300–U200	HFd	H	7.84*	Tim 36000	Ws41A	722	1038	var	TI	87	10 1/4x3 1/4 x	T
63	.....31-A	.....	△145	145	32000	11000	▲11.00/20	11.00/24	Con R-6602	6–4 1/2x5 3/8	602	5.	9464	202–2800	7–3 1/4x14.7	Y	Spi6252A-53◆	5	TS300–U200	HFd	H	7.84*	Tim 36000	Ws41A	722	1038	var	TI	67	10 1/4x3 1/4 x	T
64	.....31-B	.....	△165	165	32000	11750	▲11.00/20	11.00/24	Con R-6602	6–4 1/2x5 3/8	602	5.	9464	202–2800	7–3 1/4x14.7	Y	Spi6252A-53◆	5	TS300–U200	HFd	H	7.84*	Tim 36000	Ws41A	722	1038	var	TI	87	10 1/4x3 1/4 x	T
	School Buses																													
65	.....C119-31	.....	152	152	.....	.....	7.00/20	7.00/20	Own GC 245	6–3 1/2x4 1/4	245	6.2	192	89–3100	7–2 5/8x10.7	Y	Cla 185F	4	Tim 53547	SF	H	6.16	Tim 30000	T41VH▼	310	482	var	TX	.....	9x3x 1/4	T
66	.....C119L-43	.....	188	188	.....	.....	7.50/20	7.50/20	Own GC 245	6–3 1/2x4 1/4	245	6.2	192	89–3100	7–2 5/8x10.7	Y	Cla 185F	4	Tim 53547	SF	H	6.67	Tim 31013	T41VH▼	310	482	var	TX	.....	9x3x 1/4	T
67	.....C110LS-49	.....	206	206	.....	.....	7.50/20	7.50/20	Own GC 245	6–3 1/2x4 1/4	245	6.2	192	89–3100	7–2 5/8x10.7	Y	WG T97	4	Tim 53547	SF	H	6.67	Tim 31013	T41VH▼	310	482	var	TX	.....	9 1/4x3 1/4 x	T
68	.....C121-49	.....	206	206	.....	.....	8.25/20	8.25/20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	Cla 231F	4	Tim E100	HyF	H	6.80	Tim 31104	T41VH▼	314	532	var	TX	.....	9 1/4x3 1/4 x	T
69	.....C1218-55	.....	224	224	.....	.....	8.25/20	8.25/20	Own GC 288	6–3 1/2x5	288	6.2	225	96–3000	7–2 5/8x10.7	Y	WG T97	4	Tim E100	HyF	H	6.80	Tim 31104	T41VH▼	314	532	var	TX	.....	9 1/4x3 1/4 x	T
70	.....C122-55	.....	224	224	.....	.....	9.00/20	9.00/20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 231F	4	Tim H100	HyF	H	7.20	Tim 31104	T41VH▼	344	584	var	TX	.....	9 1/4x3 1/4 x	T
71	.....C-122-L	.....	252	252	.....	.....	9.00/20	9.00/20	Own GC 310	6–3 5/8x5	310	6.2	243	101–3000	7–2 5/8x10.7	Y	Cla 231F	4	Tim H100	HyF	H	7.2	Tim 32500	T41VH	344	588	var	TX	.....	9 1/4x3 1/4 x	T

(Turn to Page 122, please)

▲—Includes Cab.
*—2-Speed Axle Available.
▼—Lockheed Type Front and Timken Dual Primary Rear Brakes.
■—Two speed rear axle with vacuum shift.
◆—6231A Spicer Auxiliary Transmission.
◆—8031 F-G Spicer Transmission available.
▲—Special W.B.'s available on request.
‡—8200 for 8.25/18 tires.

These truck bodies were built by Truck and Trailer Industries, Inc., New York City.



7 Good Reasons

for Standardizing on Lindsay Structure

1. EASE OF REPAIR. A Lindsay Body can be repaired quickly—damaged panels easily removed—replacements available from warehouse stocks.

2. NATIONWIDE SERVICE. There are 207 authorized Lindsay Body Builders, thus, you can get complete factory service on any Lindsay body any place in the country. Your branch offices can also buy new bodies locally and know that they conform in every way to your standard specifications.

3. SPEED OF DELIVERY. Lindsay bodies —one or a hundred—are built in record time. This modern method of assembly is ideal for line production.

4. STRENGTH AND SAFETY. LS has an amazingly high strength-weight ratio. A Lindsay body withstands wear—saves weight—increases payload.

5. APPEARANCE. The rugged beauty of LS is adaptable to your individual design requirements.

6. UNIFORMITY. Units in your fleet can be identical yet built in entirely different parts of the country.

7. EXPERIENCE. Lindsay bodies stand the test of actual service. The strongest and most frequently heard reason given for the purchase of Lindsay bodies last year was—"We've used them before."

Let us tell you all about Lindsay bodies.

Photograph and Trade-Mark
Courtesy Wm. Wrigley, Jr. Company

—and be sure to get there with the Truck Body that lasts!

A Lindsay Body is an investment in low-cost transportation that will pay you dividends for years and years. Investigate Lindsay Structure—Write for information.

The Lindsay Corporation, 1724 25th Ave., Melrose Park, Ill. Sales Offices: Chicago, New York, Atlanta, San Francisco.

LINDSAY STRUCTURE

REG. U. S. PAT. OFF.

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending

DISTRIBUTORS AND BUILDERS IN ALL PARTS OF THE COUNTRY

(Continued from Page 120)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	Forward Sp'ds	REAR AXLE: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make	Location	Type Operat'n	Lining Area	Drum Area	Drum Material	Hand Location	Type	G-A Dimension (Min. Std. W. B.)	FRAME: Side Rail Dimensions	Type
1	Sterling....HD97		148	175	24000	9150	9.00/20	11.00/20	Wau 6MZA	6-4¼x4¾	404	5.6	290	130-3000	7-2⅝x12½	Y	Fu 5A43	5	Tim Q100DPH	FHy	R	5.29-7.80	Tim 35011H	T41HV	524	926	A	TX	67	9x7x¼	A
2	.....HD105		148	175	24000	9550	10.00/20	11.00/22	Wau 6MZA	6-4¼x4¾	404	5.6	290	130-3000	7-2⅝x12½	Y	Fu 5A43	5	Tim R100DPH	FHy	R	5.29-7.40	Tim 35011H	T41HV	524	926	A	TX	67	9x3¼x¼	A
3	.....HD115		148	175	32000	10650	10.00/20	11.00/24	Wau 6SRKR	6-4½x5⅛	517	5.5	368	125-2250	7-3x13⅞	Y	Fu 5A62	5	Tim 8200P	2F	R	6.42-9.83	Tim 36000TW	Ws4IA	722	1054	A	TX	67	9x3¼x¼	A
4	.....HD145		148	175	36000	11250	11.00/20	12.00/24	Wau 6SRKR	6-4½x5½	517	5.5	368	125-2250	7-3x13⅞	Y	Fu 5A62	5	Tim 8200P	2F	R	6.42-9.83	Tim 36000TW	Ws4IA	722	1054	A	TX	68	9x3¼x¼	A
5	(D)....HD115H		158	185	32000	11950	10.00/20	11.00/24	Cum HB600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4B86	4	Tim 7972IW	2F	R	7.69-11.36	Tim 36000TW	Ws4IA	670	1118	A	TX	68	9¼x3⅝x⅝	A
6	(D)....HD145H		158	185	36000	12550	11.00/20	12.00/24	Cum HB600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4B86	4	Tim 7972IW	2F	R	7.69-11.36	Tim 36000TW	Ws4IA	670	1118	A	TX	68	9¼x3⅝x⅝	A
7	.....HC97		148	175	24000	9200	9.00/20	11.00/20	Wau 6MZA	6-4¼x4¾	404	5.6	290	130-3000	7-2⅝x12½	Y	Fu 5A43	5	Own 97H	CD	R	6.70-10.82	Tim 35011H	T41HV	518	852	A	TX	67	9x7x¼	A
8	.....HC105		148	175	28000	9700	10.00/20	11.00/22	Wau 6MZA	6-4¼x4¾	404	5.6	290	130-3000	7-2⅝x12½	Y	Fu 5A43‖	15	Own 137H	CD	R	6.70-10.82	Tim 35011H	TL41HV	540	842	A	TX	67	9x3¼x¼	A
9	.....HC115		148	175	32000	10350	10.00/20	11.00/24	Wau 6SRKR‖	6-4½x5⅛	517	5.5	368	125-2250	7-3x13⅞	Y	Fu 5A62‖	15	Own 137W	CD	R	6.70-10.82	Tim 36000TW	Ws4IA	648	1064	A	TX	67	9x3¼x¼	A
10	.....HC144		148	175	36000	11250	10.00/22	12.00/24	Wau 6SRKR	6-4½x5½	517	5.5	368	125-2250	7-3x13⅞	Y	Fu 5A62‖	15	Own 148W	CD	R	6.70-10.82	Tim 36000TW	Ws4IA	708	1102	A	TX	67	9¼x3⅝x⅝	A
11	.....HC147		148	175	36000	11500	10.00/22	12.00/24	Wau 6SRKR	6-4½x5½	517	5.5	368	125-2250	7-3x13⅞	Y	Fu 5A62‖	15	Own 147W	CD	R	6.70-10.82	Tim 36000TW	Ws4IA	708	1102	A	TX	67	9¼x3⅝x⅝	A
12	.....HC175		167	185	45000	14600	12.00/24†	14.00/24‡	Wau 145GK	6-5¼x6	779	6.2	585	186-2100	7-3½x17¾	Y	Fu 4B86●	12	Own 175W	CD	R	7.31-12.42	Tim 27454W	Ws4IA	786	1212	A	TX	77	9¼x3⅝x⅝	A
13	.....HC250		178	190	60000	18400	14.00/24†	14.00/24‡	Wau 145GK	6-5¼x6	779	6.2	585	186-2100	7-3½x17¾	Y	Fu 4B86●	12	Own 251W	CD	R	7.31-12.42	Tim 27454W	Ws4IA	786	1212	A	JX	95	12x3½x⅜	AL
14	(D)....HC115H		167	185	32000	12250	10.00/20	11.00/24	Cum HB600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4B86●	12	Own 137W	CD	R	6.70-10.82	Tim 36000TW	Ws4IA	648	1064	A	TX	77	9x3¼x¼	A
15	(D)....HC175H		167	185	45000	14930	12.00/24†	14.00/24‡	Cum HBD600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4B86●	12	Own 175W	CD	R	7.31-12.42	Tim 27454W	Ws4IA	786	1212	A	TX	77	9¼x3⅝x⅝	A
16	(D)....HC250H		178	190	60000	18700	14.00/24‡	14.00/24‡	Cum HBD600	6-4½x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4B86●	12	Own 251W	CD	R	7.31-12.42	Tim 27454W	Ws4IA	786	1212	A	JX	95	12x3½x⅜	AL
17	Studebaker....2R5	972	112	112	4600	2125	6.00/16S	6.50/16S	Own 1R	6-3x4	170	6.5	134	80-4000	4-2⅛x5⅛	N	Own 673519	3	Own 673874	Hy	H	**-4.82	Own 677574	Wg4IH	170	276	CO	2I	40	7x2⅛x⅛	T
18	.....2R10	1038	122	122	6100	2400	6.50/16S	7.50/16S	Own 1R	6-3x4	170	6.5	134	80-4000	4-2⅛x5⅛	N	Own 673519	3	Own 677806	SF	H	5.57-4.86	Own 677574	Wg4IH	198	314	CO	2I	50	7⅛x2⅛x⅛	T
19	.....2R15-21	1186	121	121	7800	3005	7.00/17S	7.00/20	Own 2R	6-3x4	170	6.5	134	80-4000	4-2⅛x5⅛	N	Own 676044	4	Own 677768	SF	H	5.83-6.66	Own 677091	LH4IH	216	342	Ce	TX	50½	8x2½x⅛	T
20	.....2R15-31	1205	131	131	10000	3065	7.00/17S	7.00/20	Own 2R	6-3x4	170	6.5	134	80-4000	4-2⅛x5⅛	N	Own 676044	4	Own 677768	SF	H	5.83-6.66	Own 677091	LH4IH	216	342	Ce	TX	60½	8½x2½x⅛	T
21	.....2R16	1291	131	195	14000	3695	6.50/20 D	8.25/20	Own 3R	6-3⅛x4⅜	226	6.5	174	94-3400	4-2½x5½	N	Own 676045	4	Own 675732↓	SF	H	6.66-5.66	Own 674484	LH4IH	280	442	Ce	TX	60½	8½x2½x⅛	P
22	.....2R17	1592	131	195	16000	4180	7.50/20 D	8.25/20	Own 3R	6-3⅛x4⅜	226	6.5	174	94-3400	4-2½x5½	Y	Own 676045	4	Own 675571↓	Hy	H	6.80-	Own 674484	LH4IH	350	553	Ce	TX	60½	8½x2½x⅛	P
23	Ward La Fr....D-1		149	220	25000	▲9500	10.00/20	11.00/20	Con T6427	6-4⅛x4¼	427	5.1	340	132-2600	7-2⅞x13½	Y	Ful 5A430	5	Tim Q-100	B	R	**-6.83	Tim 35017TW	Ws4A	600	928	C	TM	68¼	9½x3x¼	....
24	.....D-1C		149	220	29000	▲9500	11.00/20	11.00/22	Con T6427	6-4⅛x4½	427	5.1	340	132-2600	7-2⅞x13½	Y	Ful 5A430	5	Tim S-200	S2	R	**-7.08	Tim 35017TW	Ws4A	673	1031	C	TM	68¼	9½x3x¼	....
25	.....D-2K		149	220	29000	▲10000	11.00/20	11.00/22	Wau 140GK	6-4½x5½	525	6.4	425	168-2400	7-2¾x13⅜	Y	Ful 5A620	5	Tim S-200	S2	R	**-7.84	Tim 35017TW	Ws4A	673	1031	C	TM	68¼	10x3½x⅛	....
26	.....D-2Z		149	220	29000	▲10000	11.00/20	11.00/20	Wau 140GZ	6-4½x5½	554	6.4	456	184-2400	7-3¼x13⅛	Y	Ful 5C650	5	Tim S-200	S2	R	**-7.84	Tim 35017TW	Ws4A	673	1031	C	TM	68¼	10x3½x⅛	....
27	.....D-3		149	220	29000	▲10000	11.00/20	11.00/22	Con R6572	6-4¾x5½	572	5.9	440	189-2600	7-3¼x14½	Y	Ful 5C650	5	Tim S-200	S2	R	**-7.84	Tim 35017TW	Ws4B	673	1031	C	TM	68¼	10x3½x⅛	....
28	.....D-3S		149	220	29000	▲10000	11.00/20	11.00/22	Con R6602	6-4¾x5½	602	5.9	463	198-2600	7-3¼x14½	Y	Ful 5C650	5	Tim S-200	S2	R	**-7.84	Tim 35017TW	Ws4B	673	1031	C	TM	68¼	10x3½x⅛	....
29	.....D-5		149	220	35000	▲12500	11.00/22	11.00/24	Cum HB600	6-4½x6	672	17	500	150-1800	7-4½x16¾	Y	Ful 5C650	5	Tim U-200	S2	R	**-6.42	Tim 27463	Ws4B	681	1041	C	TM	68¼	10x3½x⅛	....
30	Willys (Sd.Del.)463	1450•	104	104	4000	•2752	6.50/15S	.....	Own 463	4-3½x4½	134	6.5	105	63-4000	3-2.33x5.48	N	WG T96	3	Spl 23-1	Hy‖	H	4.88-5.38	Own I Tr	B4IH	133	220	a	2I	.....	5x2¼x.063	TfD
31	Willys.....2WD	1425•	118	118	5300	•2788	6.50/16S‡	7.00/16S	Own 2WD	4-3½x4½	134	6.5	105	60-4000	3-2.33x5.48	N	WG T90E	3	Tim 31540NX3	S‖	H	5.38-6.17	Cla F-154	B4IH	176	276	a	2I	42.28	5½x2x⅛	TD
	Four-Wheel-Drive																																
32	Corbitt.....22FG		159	Opt	22000	.....	9.00/20	10.00/20	Con B6371	6-4½x4½	371	6.0	280	100-2600	7-2½x13½	Y	Fu 5A43	5	Tim R2090H	2F	H	** -8.43	Tim F2090H	L4IHV	....	868	a	TD	74	9x3x¼	DL
33	Dodge....B-1-PW		126	126	8700	.....	7.50/16-8	9.00/16-8	Own T-137	6-3½x4½	280	6.7	185	94-3200	4-2½x4.8	Y	NP-38580	4	Own T-137	HyF	H	4.8-5.8	Own T-137	O4IH	210	311	c	TX	52½	⅛x2⅛x6½	C
34	FWD.....HA		132	168	17000	▲7470	8.25/20D	10.00/20	Wau BZ	6-4x4¼	320	5.9	237	104-3000	7-2¼x10¼	Y	Own H	5	Own H	8F	H	6.6 -9.01	Own H	L4IHV	391	807	a	T4	79½	9x3x¼	T
35	.....HR		132	168	20000	▲8000	9.00/20	10.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	129-2800	7-2⅝x12⅝	Y	Own H	5	Own H	8F	H	6.6 -9.01	Own H	L4IHV	391	807	a	T4	79½	9x3x¼	T
36	.....HG		154	154	20000	▲8050	9.00/20	10.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	129-2800	7-2⅝x12⅝	Y	Own H	5	Own H	8F	H	6.6 -9.01	Own H	L4IHV	391	807	a	T4	89¾	7⅛x3x⅛	T
37	.....8U		150	182	28000	▲10570	11.00/20D	11.00/20	Wau 8RKR	6-4½x5½	517	5.5	365	126-2400	7-3x13⅞	Y	Own U	5	Own U	8F	H	6.7 -9.8	Own U	L4IHV	512	867	a	T4	90	8⅛x3x⅛	C
38	.....YU		150	182	28000	11570	11.00/20D	11.00/20	Wau 140GK	6-4½x5½	525	6.1	425	142-2200	7-3¼x13⅜	Y	Own S	5	Own YU	8F	H	**-5.7	Own YU	L4IHV	517	814	a	T4	90	8⅛x3x⅛	C
39	.....ZU		150	182	33000	12540	11.00/20D	11.00/20	Wau 140GZ	6-4¾x5½	554	6.4	460	188-2600	7-3¼x13⅜	Y	Own S	5	Own ZU	8F	H	6.79-12.59	Own ZU	L4IHV	640	1106	a	T4	90	10⅛x3⅜x⅛	C
40	.....M7		150	180	38600	▲15500	12.00/20D	12.00/24	Wau 145GK	6-5¼x6	779	6.2	585	186-2000	7-3½x17¾	Y	Own M	10	Tim 1758	2F	H	** -7.33	Wis F409	Ws4IA	584	976	a	T4	90	10⅛x3⅜x⅛	C
41	(D).....M7D		150	180	38600	▲15700	12.00/20D	12.00/24	Bu DC844	6-5¾x6½	844	...	605	180-1800	7-3¾x17	Y	Own M	10	Tim 1758	2F	H	** -7.33	Wis F409	Ws4IA	584	976	a	T4	90	10⅛x3⅜x⅛	C
42	.....M10		150	180	44000	▲16800	11.00/24D	12.00/24	Wau 145GK	6-5¼x6	779	6.2	585	186-2000	7-3½x17¾	Y	Own M	10	Tim 79721	2F	H	** -7.7	Wis F409	Ws4IA	614	1030	a	T4	90	10⅛x3⅜x⅛	C
43	(D).....M10D		150	180	44000	▲1 400	11.00/24D	12.00/24	Bu DC844	6-5¾x6½	844	...	605	180-1800	7-3¾x17	Y	Own M	10	Tim 79721	2F	H	** -7.7	Wis F409	Ws4IA	614	1030	a	T4	90	10⅛x3⅜x⅛	C
44	Marmon-MH440-4		158	170	24000	▲9300	9.00/20D	10.00/20	Her WXLC3	6-4¼x4¼	404	5.4	293	118-2800	7-2⅛x13¼	Y	Fu 5A430	5	Own 1121	2B	H	** -8.43	Own 121	W....A	584	887	c	F	72	9⅛x3x¼	T
45	Herr...MH555-4		161	173	28000	▲10200	10.00/20D	11.00/20	Her RXC	6-4½x5¼	529	6.3	390	131-2200	7-3x13¼	Y	Fu 5A620	5	Own 1122	2B	H	** -8.15	Own 122	W....A	692	1039	c	F	72	10⅛x3x⅛	T
46	(C).....R5-4		134	158	15500	▲4847	7.50/20D	7.50/20	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	H	** -6.67	Own M5	F....H	303	563	a	F	60⅛	7x2¾x⅜	T
47	(C).....R6-4		158	158	15500	▲4973	7.50/20D	7.50/20	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	H	** -6.67	Own M5	F....H	303	563	a	F	84⅛	7x2¾x⅜	T
48	(C).....LD6P-4		114	....	....	....	15•	15•	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	T	** -4.11	Own O	F....H	162	....	A	F	....	....	....	T
49	(C).....LD7-4		114	....	4700	▲2719	15•	15•	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	H	** -4.11	Own O	F....H	162	....	A	F	40⅛	5⅛x2¼x⅛	T
50	(C).....R3-4		122	....	6800	▲4500	7.50/17	7.50/17	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	H	** -4.86	Own I	F....H	186	....	A	F	48	6x2⅛x⅛	T
51	(C).....R4-4		134	....	7500	.....	7.00/18S	7.00/18	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	H	** -5.33	Own	F....H	303	563	A	F	60⅛	7x2⅛x⅛	T
52	(C)..R5-6-COE4		110	158	15500	.....	7.50/20D	7.50/20	Ford	8-3⅛x3½	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	8	H	** -6.67	Own	F....H	303	563	A	F	60⅛	7.08x2.8x⅛	T
53	(C).....Q5-4		136	....	21500	.....	9.00/20	10.00/20	Ford	8-3½x4½	337	6.4	255	145-3600	3	..	Ford	5	Ford	H	H	** -6.80	Own	F...H	350	583	A	F	85	9x3x¼	T
54	(C).....Q6-4		160	....	21500	▲7300	9.00/20	10.00/20	Ford	8-3½x4½	337	6.4	255	145-3600	3	..	Ford	5	Ford	H	H	** -6.80	Own	F...H	350	583	A	F	85	9x3x¼	T
55	.....Q7-4		196	....	21500	▲7500	9.00/20	10.00/20	Ford	8-3½x4½	337	6.4	255	145-3600	3	..	Ford	5	Ford	H	H	** -6.80	Own	F...H	350	583	A	F	85	9x3x¼	T
56	Oshkosh...W-312		149	205	25000	▲10200	10.00/20D	11.00/20	Her WXLC03	6-4¼x4¼	404	6.3	312	139-2600	7-2⅛x13¼	Y	Fu 5A43	10	Own W312	8F	H	** -6.8	Own W312	L41I	510	876	G	TX	82	8¼x⅞x⅜	TF
57	.....W1700		150	205	28000	▲11000	11.00/20D	12.00/20S	Her RXC	6-4½x5¼	529	5.4	395	131-2200	7-3x13¼	Y	Fu 5A620	10	Own W1700	8F	H	** -6.4	Own 1700	L4IH	570	980	G	TX	82	8¼x3x⅜	TF
58	.....W-700		150	205	30000	▲12000	11.00/20D	12.00/20	Her RXCO	6-4½x5¼	529	5.4	395	131-2200	7-3x12¾	Y	Fu 5A450	10	Own W700	2F	H	** -6.8	Own W700	L4IH	630	975	G	TX	82	10⅛x3x⅜	TF
59	(D)....W-703D		150	205	30000	▲12700	11.00/20D	12.00/20	Her DRXC	6-4½x5¼	529	15.	398	147-2200	7-3½x13¼	Y	Fu 5A650	10	Own W700	2F	H	** -6.8	Own W700	L4IHA	630	975	G	TX	82	10⅛x3x⅜	TF
60	.....W-703		150	205	30000	▲12200	11.00/20D	12.00/20	Her RXLD	6-4½x5¼	558	5.4	430	150-2200	7-3½x13¼	Y	Fu 5A450	10	Own W700	2F	H	** -6.8	Own W700	L4IH	630	975	G	TX	82	10⅛x3x⅜	TF
61	.....W-705		150	205	30000	▲12200	11.00/20D	12.00/20	Her RXLD	6-4½x5¼	558	5.4	430	150-2200	7-3½x13¼	Y	Fu 5A650	10	Own W700	2F	H	** -6.8	Own W700	L4IHA	630	975	G	TX	82	10⅛x3x⅜	TF
62	(D).....W-906		158	181	38000	▲15600	12.00/20D	14.00/20S	Cum HB600	6-4⅞x6	672	...	500	150-1800	7-4½x16	Y	Fu 4A86	12	Own W906	2F	H	** -6.2	Own W906	LT4IWS	645	975	G	TX	90	10⅛x3⅛x⅜	TF
63	.....W2200		160	181	40000	▲16500	13.00/20D	14.00/20S	Bu MO779	6-5¼x6	779	...	575	188-2100	7-3¾x17	Y	Fu 4A86	12	Own W2200	2F	H	** -6.15	Own 2200	LT4IA	645	975	G	TX	90	10¼x3¼x⅜	TF
64	.....W2201		160	181	40000	▲16500	13.00/20D	14.00/20S	Bu MO893	6-5¾x6	893	...	670	200-1800	7-3¾x17	Y	Fu 4A86	12	Own W2201	2F	H	** -6.15	Own 2201	LT4IA	645	975	G	TX	90	10¼x3¼x⅜	TF
65	(D).....W2204		160	181	46000	▲18500	13.00/20D	14.00/24	Bu 6DC844	6-5¼x6½	844	...	605	180-1800	7-3¾x17	Y	Fu 4A86	12	Own W2204	2F	H	** -6.4	Own 2204	LT4IA	780	1190	G	TX	90	10¼x3¼x⅜	TF
66	.....W2205		160	181	54000	▲19500	13.00/20D	14.00/24	Bu 6DC8844	6-5¾x6½	844	...	740	240-2100	7-3¾x17	Y	Fu5A920	10	Own W2205	2F	H	** -6.3	Own W2205	LT4IA	780	1190	G	TX	90	10¼x3¼x⅜	TF
67	Sterling....DD115		160	178	32000	11500	10.00/20	11.00/24	Wau 6SRKR	6-4½x5½	517	5.5	368	125-2250	7-3x13⅞	Y	Fu 5A62•	10	Tim 1357W	2F	H	6.52-8.6	Tim F3110W	Ws4IA	644	984	A	TX	76	9x3¼x¼	A
68	(D)....DD145H		167	185	36000	13900	11.00/20	12.00/24	Cum HB600	6-4¾x6	672	17.	500	150-1800	7-4½x16½	Y	Fu 4B86▼	10	Tim 1758W	2F	H	7.33-10.3	Tim F409CW	Ws4IA	644	984	A	TX	77	9¼x3⅝x⅝	A

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‖ Includes Cab. † Rear only: Front 11.00/24. ‡ Rear only: Front 12.00/24. ▲ Auxiliary transmission Own FJ. • 2 speed 6.13-8.10 optional. ▼ Complete Vehicle with pick-up type body. △ Timken T76—2 speed transfer case. • Front only: Rear 8.25/20. ‖ Auxiliary Transmission Own CJ. ‡ Rear only: Front 6.00/16. ▲ Timken T77 2-speed Transfer Case.

AGAIN . . .
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White

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(Continued from Page 122)

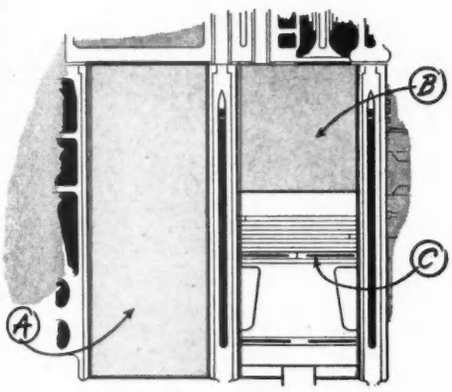
Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number, Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Sp'ds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range to High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operat'n	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES SERVICE: Hand Location Type	G-A Dimension (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
1	Walter(c.f.)....FN		126	150	20000	7500	9.00/20D	10.00/20S	Wau MZA	6–4¼x4⅝	404	5.6	290	125–2600	7–2⅝x12½	Y	Own FN	6	Own FNB	2	H	6.0–8.0	Own FN	O4IA	470	670	G	FI	84	7x2⅝x¼	C
2	(c.f.)...FZM		126	150	24000	8500	10.00/20D	12.00/20S	Wau MZA	6–4¼x4⅝	404	5.6	290	125–2600	7–2⅝x12½	Y	Own FN	6	Own FMB	2	H	6.0–8.0	Own FJ	O4IA	470	670	G	FI	84	12x3½x½	B
3	(c.f.)...FCK		126	138	30000	10500	10.00/24D	11.00/24S	Wau SRKR	6–4⅝x5½	517	5.5	365	125–2200	7–3x13⅛	Y	Own FC	6	Own FCB	2	H	7.5–9.0	Own FC	O4IA	585	890	D	FI	84	13x3¾x½	B
4	(c.f.)...FC		138	162	32000	11000	11.00/24D	12.00/24S	Wau SRKR	6–4⅝x5½	517	5.5	365	125–2200	7–3x13⅛	Y	Own FC	6	Own FCB	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	96	14x3¾x½	B
5	(c.f.)...FGB		126	162	32000	12000	11.00/24D	12.00/24S	Wau 145GK	6–5¼x6	779	5.7	580	185–2000	7–3½x17¾	Y	Own FA	6	Own FCB	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	84	14x3¾x½	B
6	(c.f.)...FGR		126	162	42000	13000	12.00/24D	12.00/24	Wau 145GK	6–5¼x6	779	5.7	580	185–2000	7–3½x17¾	Y	Own FA	6	Own FCR	2	H	7.5–9.0	Own FCR	O4IA	585	890	D	FI	89	14x3¾x½	B
7	Ward La Fr...FD1				35000	▲11500	11.00/22	11.00/22	Cont 6513	6–4½x5¾	513	5.9	405	180–2800			Ful 5A620	5	Tim R462W		**	–8.15	Tim F3100W	BW4IA			Co			10x3x¼	
8	(D).....FD2				35000	▲12000	11.00/24	11.00/24	Cum HB600	6–5 ½x6	672	17.	500	150–1800			Ful 5A920	5	Tim R462W		**	–8.15	Tim F3100W	BW4IA			Co			10x3x¼	
9	Willys Jp...CJ-2A	1220*	80	80	3500	*2169	6.00/16	7.00/15	Own CJ-2A	4–3½x4½	134	6.5	105	60–4000	3–2.33x5.48	N	WG T90C	‡6	Spi 41-2	Hy‡	H	**	–5.38	Spi 25	B4IH	118	198	a	F		4x1¾x¼	P
10	.....4WD	1725*	118	118	5300	*2920	7.00/16	.....	Own 4WD	4–3½x4½	134	6.5	105	60–4000	3–2.33x5.48	Y	WGT90A	‡6	Tm1 5540NX3	S½	H	**	–5.38	Spi 25	B4IH	176	276	a	2I	42.28	5½x2x¼	TD
	Six-Wheelers Wheels ▼ Driven																														
11	Dodge.....TH6		154	190	34000	....	9.00/20	10.00/20	Own BIVX	6–3¼x5	331	6.5	270	128–3000	7–3x11.2	Y	NP 88450	5	Tim SBD1555	HyF	..	6.8 –7.8	T-35020NX9	O6IA	727	1056	C	TX	84	10x3x¼	CP
12	Duplex....TH6		162	220	30000	9180	8.25/20	9.00/20	Her JXD	6–4x4 ⅛	320	6.2	240	113–3000	7–2 ⅛x10	Y	Fu 5B33▵	10	Tim SBD1055	BF	L	**–6.16	Tim 32502H	L6IHV	513	839	A	TX	83	9 ½x3 ½x ¼	L
13	(D).....L6		172	208	45000	15000	11.00/20	12.00/20	Cum HB600	6–4 ⅞x6	672	17.	495	150–1800	7–4 ½x16	Y	Fu 5A920	5	Tim SD454	SF2	L	6.8–8.15	Tim 26450	Ws6IA	1137	1625	A	TX	77	10 ½x2 ½x ¼	L
14	Federal....663MA		189	225	.....	14500	10.00/20	10.00/22	Con R6602	6–4⅞x5¾	602	6.1	464	200–2600	7–3¼x14½	Y	Fu 5A65▼	15	T SW3012P	WF	R	**	–6.16	Tim 36000TW	Ws6IA	1082	1569	a	TD	108	10¼x3¾x¼	T
15	.....664MAB		189	225	.....	15850	11.00/22	12.00/20	Con R6602	6–4⅞x5¾	602	6.1	464	200–2600	7–3¼x14½	Y	Spi 7741▼	12	Tim SW456P	WF	R	**	–7.6	Tim 27452W	Ws6IA	1308	1888	a	TD	108	10¼x3¾x¼	T
16	.....664MA		189	225	.....	1o950	11.00/22	12.00/20	Con R6602	6–4⅞x5¾	602	6.1	464	200–2600	7–3¼x14½	Y	Spi 7741▼	12	Tim SD462P	BR	R	**	–8.15	Tim 27452W	Ws6IA	1092	1624	a	TD	108	10¼x3¾x¼	T
17	.....629M		163	199	.....	8600	8.25/20	9.00/20	Her JXDF	6–4x4¼	320	...	250	112–2800	7–2½x10½	Y	Cla 205V‡‡	10	TSBD1055dph	SF	R	7.53	10.35	Tim 32514H	LT61HV	544	914	a	TX	84	9 ¼x3½x⅛	TL
18	.....629ML		163	199	.....	8635	8.25/20	9.00/20	Her JXLDF	6–4x4½	339	...	272	126–2800	7–2½x10½	Y	Cla 205V‡‡	10	TSBD1055dph	SF	R	7.53	10.35	Tim 32514H	LT61HV	544	914	a	TX	84	9 ¼x3½x⅛	T
19	.....635M		167	203	.....	10400	9.00/20	9.00/20	Con T6371F	6–4⅛x4⅝	371	...	290	133–2600	7–2⅛x13½	Y	Cla 270VO▵	10	TSBD1555dph	SF	R	8.33	11.47	Tim 35011H	LT61HV	752	1132	a	TX	84‡	10 ¼x3½x¼	T
20	.....645M		167	215	.....	12325	10.00/22	10.00/22	Con T6427F	6–4 ⅞x4⅞	427	...	342	155–2600	7–2⅛x13½	Y	Cla 270VO▵	5*	T-SD3010P	BR	R	**	–9.16	Tim 35011TW	Ws6IA	1073	1550	a	TD	84½	10½x3½x¼	T
21	F.W.D.....M6x6		Opt	Opt	58000	▲21400	11.00/24D	11.00/24	Wau 145GK	6–5¼x6	779	6.2	585	186–2000	7–3½x17⅞	Y	Own M	10	Wis SD462	2F	L	**	–10.6	Wis F409	Ws6IA	1080	1680	a	T6	183	10 ¼x3x ‡‡	P
22	(D)....M6X6D		Opt	Opt	58000	▲21600	11.00/24D	11.00/24	Bu DC844	6–5¼x6½	844	...	605	180–1800	7–3¾x17	Y	Own M	10	Wis SD462	2F	L	**	–10.6	Wis F409	Ws6IA	1080	1680	a	T6	216	10 ¼x3x ‡‡	P
	International (2)																														
23	.....KB-6F 4R	3300	151	194	22000	7010	7.50/20D	8.25/20	Own BLD250	6–3 ⅛x4½	251	6.3	200	100–3200	4–2⅝x5 ‡‡	N	Own F51	5▵	Own RF1450	SF	H	6.16–6.66	Own F470	LH61HV	495	869	c	PX	77	8 ¼x ¼x ¼	T
24	.....KB-8F 4R	4950	161	215	27000	8670	8.25/20D	9.00/20	Own RED361	6–4½x4½	361	6.3	282	126–3000	7–3¼x10 ‡‡	Y	Own F52	5	Own RF1560	SF	H	6.50–7.16	Own F550	LH61HV	644	1105	c	PX	84	9 ¼x3 ¼x ⅜	T
25	.....KB-11F 4R	7425	161	215	37000	10830	9.00/20D	10.00/20	Own RED450	6–4¾x5	451	6.3	360	148–2600	7–3¼x10 ‡‡	Y	Own F54	5	Own RF1670	SF	H	**	–7.16	Own F760	LH61HV	738	1179	G	PX	84	10x3 ¼x ¼	T
26	.....W4064L	12925	203	239	40000	15750	10.00/22	11.00/22	Cum HB600	6–4⅞x6	672	17.	492	150–1800	7–4½x....	Y	Spi 7741	4	Tim SW3012	WF	L	4.71–6.16	Own 82F	BW61A	876	....	....	PX	108	10x3 ½x ¼	C
27	.....W4564OH	13750	188	242	45000	16635	10.00/22	11.00/22	Cum HB600	6–4⅞x6	672	17.	492	150–1800	7–4½x....	Y	Spi 7741	4	Tim SW456	WF	H	6.00–7.6	Own 83F	BW61A	1020	....	....	PX	90	10x3 ½x ¼	L
28	.....W6564OH	15700	206	302	65000	19895	11.00/24	12.00/24	Cum HB600	6–4⅞x6	672	17.	492	150–1800	7–4½x....	Y	Spi 7741	4	Tim SD466	2F	H	8.15–11.66	Own 82F	BW61A	....	....	....	PX	108	10x3 ½x ¼	L
	Kenworth																														
29	.....(D)....522		187	245	43000	12900	10.00/20	11.00/22	Cum HB6	6–4¼x6	672	17.	500	150–1800	7–4½x16½	Y	BL 8241	4	Tim U200P&†	....	..	**	....	Tim 36000TW	Ws41A	1135	....	....	....	....	9 ½x3 ¼x ¼	....
30	.....(D)523.4R		193	241	41000	14600	10.00/20	11.00/22	Cum HB6	6–4¼x6	672	17.	500	150–1800	7–4½x16½	Y	BL 8241	4	T‡ SW3012PA	WF	R	**	–6.16	Tim 36000	Ws4rIA	924	1248	a	TD	102	9 ½x3 ¼x ¼	C
31	.....(D)524.4R		193	241	54000	15100	10.00/20	11.00/22	Cum HB6	6–4¼x6	672	17.	500	150–1800	7–4½x16½	Y	BL 8241	4	Tim SW456	WF	R	6.0	–7.6	Tim 36000	Ws4rIA	819	1192	a	TD	102	9 ½x3 ¼x ¼	C
32	.....528.4R		186	234	40000	12500	10.00/20	10.00/22	Bud L0525	6–4½x5½	525	5.5	385	150–2200	7–3x11½	Y	Fu 5A620	5	T SW3012PA	WF	R	**	–6.16	Tim 35100	Ws4rIA	924	1248	a	TD	102	9 ½x3 ¼x ¼	C
33	.....(D)548.4R		193	241	54000	17000	11.00/22	12.00/24	Cum HB6	6–4¼x6	672	17.	500	150–1800	7–4½x16½	Y	BL 8241	4	Tim SD462	DR	R	**	–8.15	Tim 36000	Ws4rIA	819	1192	a	TD	109	9 ½x3 ¼x ¼	dbC
34	.....(D)552.4R		255	255	54000	20700	13.00/24	13.00/24	Cum HB6	6–4¼x6	672	17.	500	150–1800	7–4½x16½	Y	BL 8241	4	Tim SD462W	WF	R	**	–8.15	Tim F3200W	Ws4rIA	1109	1192	a	TD	168	9 ½x3 ¼x ¼	dbC
35	(D).....825		193	241	42000	14900	10.00/20	11.00/22	Cum HB6	6–4¼x6	672	17.	500	150–1800	7–4½x16½	Y	BL 8241	4	TGSW458P	WF	..	6.0–7.6	Tim 36000	Ws4rIA	1016	....	a	TD	102	9 ½x3 ¼x ¼	C
36	829		186	234	42000	14650	10.00/20	11.00/22	Bud LO525	6–4½x5½	525	5.5	385	150–2200	7–3x11½	Y	Fu5A620	5	TSD3010P	DR	R		–8.27	Tim 36000	Ws4rIA	924	....	a	TD	104	9 ½x3 ¼x ¼	....
	Marmon-Herr.																														
37	(C).....R5-6		156	....	22500	▲6673	7.50/20D	7.50/20	Ford	8–3 ⅛x3¾	239	6.4	180	100–3800	3–2½x4.71	N	Ford	4	Timken	S	H	**	–6.67	Own M5	M	503	....	a	F	82	7 ½x3x ¼	C
38	(C).....R6-6		180	....	22500	▲6710	7.50/20D	7.50/20	Ford	8–3 ⅛x3¾	239	6.4	180	100–3800	3–2½x4.71	N	Ford	4	Timken	S	H	**	–6.67	Own M5	M	503	....	a	F	106	7 ¼x3x ¼	C
39	.....MH440-6		182	....	34000	▲10600	9.00/20	10.00/20	Her WXLC3	6–4¼x4¾	4045	4	239	118–2800	7–2½x13¾	Y	Fu 5A430	5	Own 1123	2B	H	**	–8.43	Own 121	Ws..A	876	....	C	F	96	9 ¼x3x ¼	T
40	.....MH-555-6		182	....	42000	▲14900	11.00/20	11.00/20	Her RXC	6–4¼x5¼	5296	6.3	390	131–2200	7–3x13¾	Y	Fu 5A620	5	Own 1124	2B	H	**	–8.15	Own 122	Ws..A	1092	1608	....	F	93	10 ¼x3x ¼	T
41	(C)...R5-COE6		156	180	22500	....	7.50/20D	7.50/20	Ford	8–3 ⅛x3 ⅜	239	6.4	180	100–3800	3–2 ⅛x4.71	N	Ford	4	Ford	S	H		6.67	Own	F...H	303	563	A	F	....	7.08x2.8x ¼	T
42	(C).....Q-5-6		160	....	35000	▲9550	9.00/20	10.00/20	Ford	8–3 ⅛x4 ⅜	337	6.4	255	145–3600	3		Ford	5	Ford	....	H	**	–6.80	Own	F...H	350	583	....	F	85	9x3x ¼	T
43	(C).....Q-6-6		184	....	35000	▲9700	9.00/20	10.00/20	Ford	8–3 ⅛x4 ⅜	337	6.4	255	145–3600	3		Ford	5	Ford	....	H	**	–6.80	Own	F...H	350	583	....	F	109	9x3x ¾	T
	Oshkosh																														
44	.....W703-6X6		Opt	Opt	47000	16950	11.00/20D	12.00/20	Her RXLD	6–4¼x5¼	558	5.4	430	150–2200	7–3½x13¼	Y	Fu 5A650	12	Tim SD454W	2F	H	**	–6.31	Own-Tim	L61IH	1080	1625	G	TX	Opt	10 ½ 3 ½	⅛B
45	(D)...W1600BD		245	Opt	60000	22770	11.00/24D	12.00/24	Bu 6DC844	6–5¼x6 ½	844	...	600	180–1800	7–3¾x17	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–6.14	Own-Tim	LT61A	1080	1625	G	TX	160	12 ⅛–3 ⅛– ⅛	B
46	(D)‡W1600BDH		267	Opt	60000	24300▲	11.00/24D	12.00/24	Bu 6DC844	6–5¼x6 ½	844	...	600	180–1800	7–3¾x17	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–9.82	Own-Tim	LT61A	1080	1625	G	TX	174	12 ⅛–3 ⅛– ⅛	B
47	(D)‡W1602BDH		272	Opt	95000	29300	14.00/24D	14.00/24	Bu 6DC844	6–5¼x6 ½	844	...	600	180–1800	7–3¾x17	Y	Fu 4BI86	12	Tim SD472	2F	H	**	–13.9	Own-Tim	LT61A	....	2217	G	TX	177	12 ⅛–3 ⅛– ⅛	B
48	.....W1600BG		245	Opt	60000	22770	11.00/24D	12.00/24	Bu MO893	6–5⅝x6	893	...	625	200–1800	7–3¾x17	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–9.82	Own-Tim	LT61A	1080	1625	G	TX	160	12 ⅛–3 ⅛– ⅛	B
49	(D)...W1600CD		259	Opt	60000	23400▲	11.00/24D	12.00/24	Cum 6HBI	6–4⅛x6	672	...	500	150–1800	7–4½x16	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–6.14	Own-Tim	LT61A	1080	1625	G	TX	174	12 ⅛–3 ⅛– ⅛	B
50	(D)..W1600CDS		259	Opt	60000	23700▲	11.00/24D	12.00/24	Cum 6HBIS	6–4⅛x6	672	...	635	200–1800	7–4½x16	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–9.82	Own-Tim	LT61A	1080	1625	G	TX	174	12 ⅛–3 ⅛– ⅛	B
51	(D)..‡W1600CDH		265	Opt	60000	24000▲	11.00/24D	12.00/24	Cum 6HBI	6–4⅛x6	672	...	500	150–1800	7–4½x16	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–9.82	Own-Tim	LT61A	1080	1625	G	TX	172	12 ⅛–3 ⅛– ⅛	B
52	(D)..‡W1600CDSH		267	Opt	60000	24300▲	11.00/24D	12.00/24	Cum 6HBIS	6–4⅛x6	672	...	635	200–1800	7–4½x16	Y	Fu 4BI86	12	Tim SD462	2F	H	**	–6.14	Own-Tim	LT61A	1080	1625	G	TX	174	12 ⅛–3 ⅛– ⅛	B
53	Peterbilt(D)344DT		189	Opt	43000	16250	10.00/20D	11.00/22	Cum HB600	6–4⅛x6	672	17.	500	150–1800	7–4½x16½	Y	Spi 7741	12	Tim SW3012W	WF	A	6.00– 8	5T 36000W	Ws6IA	1212	1734	a	FD	106 ½	10⅜x3½x ¼	TL
54	(D).....345DT		187	Opt	54000	17300	10.00/20D	11.00/22	Cum HB600	6–4⅛x6	672	17.	500	150–1800	7–4½x16½	Y	Spi 7741	12	Tim SW456W	WF	A	6.00–10	2T 36000W	Ws6IA	1450	1626	a	FD	106 ½	10⅜x3½x ¼	TL
55	(D).....354DT		187	Opt	56000	17450	10.00/20D	11.00/22	Cum HB600	6–4⅛x6	672	17.	500	150–1800	7–4½x16½	Y	Spi 7741	12	Tim SW456W	WF	A	6.00–10	2T 27454W	Ws6IA	1450	1626	a	FD	106 ½	10⅜x3½x ¼	TL
56	(D).....355DT		187	Opt	56000	17900	10.00/20D	11.00/22	Cum HB600	6–4⅛x6	672	17.	500	150–1800	7–4½x16½	Y	Spi 7741	12	Tim SD462W	2F	A	**	–8.15	T 27454W	Ws6IA	1000	1626	a	FD	106 ½	10⅜x3½x ¼	TL
57	Reo....D–236, 4R		169	200	47000	13060▲	10.00/20	10.00/20	Con T–6427	6–4 ¼x4 ⅞	427	6.2	336	153–2800	7–2 ⅛x13.6	Y	Cla270V-VO■	15	Tim SD3010	SF2	T	7.5	Tim 36000	Ws41A	1072	1570	var	TD	104 ⅝	9 ½x3 ¼ x ¼	TfP
58	.....316, 4R		186	248	56000	16000▲	10.00/20	10.00/20	Con R–6602	6–4 ⅝x5 ⅜	602	5.9	464	203–2800	7–3 ¼x14.7	Y	Spi6252A-53‡	15	Tim SD454	SF2	T	7.33–8.15	Tim 36000	Ws41A	1082	1778	var	TD	108	10½x3 ¼x ⅝	TfP

(Turn to Page 126, please)

▼ Auxiliary transmission Spicer 703F with 3 forward speeds.
▲ Torque divider, Timken T70–2 speed.
§ Three speed transmission—2 speed transfer case.
‡‡ Overdrive optional.
▲ Includes cab.
■ 6231 Spicer Auxiliary Transmission.
‡ 8031F-G Spicer Auxiliary Transmission Available.
* Complete vehicle with pick-up type body.
▲ Direct in 5th optional.
§ Hydraulic Coupling. †Timken T13126 PA Trailing Axle.
▲ Chassis Weighs on Duals Front, Center and Rear.
▶ When 11.00/22 tires are required it is necessary to furnish 52 inch axle spacing.
* Auxiliary transmission spacer 6231B at extra cost gives 15 forward speeds.

STANDARD ENGINEER'S CASE FILE

CASE D119E—REDUCING WEAR ON LINERS IN DIESEL ENGINES



DIESEL ENGINE LINERS AND PISTON

In high-speed Diesel engines lubricated with RPM DELO Diesel Engine Lubricating Oil, wear on liners was held to a minimum with little variation over their entire areas. A constant lubricating film was maintained on them even in high-temperature belts. RPM DELO Oils are recommended for all types of Diesels. Come in all viscosity grades necessary for your engines.

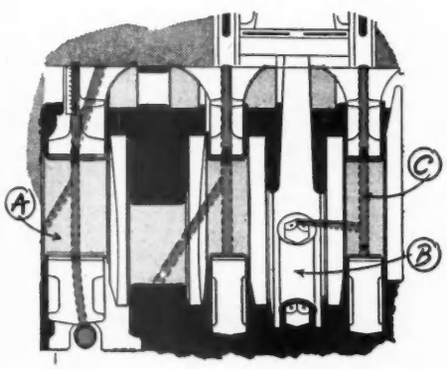
A. Special additive provides metal-adhesion qualities...keeps oil on all parts whether hot or cold, running or idle.

B. An anti-oxident resists formation of lacquer—resistance to extreme heat provides lubrication in the toughest conditions.

C. Contains detergent which keeps rings clean and operating freely...prevents scratching and gouging of liners.

RPM DELO Diesel Oil will not corrode any bearing.

CASE D119F—PROLONGING THE LIVES OF BEARINGS IN DIESELS



SECTION OF DIESEL ENGINE CRANK AND CAM

No bearing failures occurred between overhaul periods in Diesel engines used in the toughest service when they were lubricated with RPM DELO Diesel Engine Lubricating Oil.

A. Non-corrosive to all types of bearing metal...inherent ability of base stocks and added compound resist oxidation and formation of acid which is common cause of bearing corrosion.

B. Maintains a tough lubricating film which withstands excessive shocks and pressures.

C. Special detergent compound keeps oil passages clean and open - allows free flow of lubricant to vital points.

Another compound in RPM DELO Oil prevents foaming of the oil. An accurate measurement of crankcase levels can always be obtained.

For additional information and the name of your nearest Distributor, write

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The California Oil Company
Barber, New Jersey

The California Company
17th and Stout Streets, Denver 1, Colo.

Standard Oil Company of Texas
El Paso, Texas

DIESEL ENGINE RPM DELO LUBRICATING OIL

Trademarks Reg. U. S. Pat. Office

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(Continued from Page 124)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear Standard front and Rear	TIRE SIZES Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS Make and Model	No. of Cylinder, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Number, Diameter and Length Main Bearings	Governor Standard	TRANSMISSION Make and Model	TRANSMISSION Forward Sp'ds	REAR AXLE Make and Model	REAR AXLE Gear and Type	REAR AXLE Drive & Torque	REAR AXLE Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operation	BRAKES SERVICE Lining Area	BRAKES SERVICE Drum Area	BRAKES SERVICE Drum Material	BRAKES Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME Side Rail Dimensions	FRAME Type
1	Sterling																														
2	..... HB8130		164	183	32000	11000	8.25/20	10.00/20	Wau 6MZA	6–4¼x5½	404	5.6	290	130–3000	7–2⅝x12½	Y Fu	5A43	5	5T-SBD1555DPH	SF	L 6.80–13.14	T-35011H	T61HV	664	134 A	TX	83	9x3	¼x ¼	A
3	..... HDS140		164	183	36000	11800	9.00/20	10.00/20	Wau 6MZA	6–4¼x5½	404	5.6	290	130–3000	7–2⅝x12½	Y Fu	5A43	5	5T-SD3010PA	2F	L 6.84–10.22	T-35011TW	W 861A	1074	154 A	TX	83	9x3	¼x ¼	A
4	..... HWS160		164	183	42000	12600	10.00/20	11.00/22●	Wau 6SRKR	6–4⅝x5½	517	5.5	368	125–2250	7–3⅛x13⅜	Y Fu	5A62	5	5T-SW3010PA	WF	L 5.40–8.50	T-3600MTW	W 861A	1082	157 4 A	TX	83	9x3	¼x ¼	A
5	..... HWS235		182	193	52000	15700	11.00/20	11.00/24	Wau 145GK	6–5¼x6	779	6.2	585	186–2100	7–3½x17¾	Y Fu	4B86	4	T-SW456P	WF	L 5.67–8.20	T-27454W	W 861A	1308	189 2 A	TX	92	9	¼x3⅝	⅝ A
6	(D) ..HWS160H		182	193	42000	14250	10.00/20	11.00/22	Cum HB600	6–4⅝x6	672	17	500	150–1800	7–4½x16½	Y Fu	4B86	4	T-SW3012PA	WF	L 4.71–6.17	T-3600MTW	W 861A	1308	189 2 A	TX	92	9	¼x3⅝	⅝ A
7	(D) ..HWS235H		182	193	52000	16000	11.00/20	11.00/24	Cum HB600	6–4⅝x6	672	17	500	150–1800	7–4½x16½	Y Fu	4B86	4	T-SW456P	WF	L 5.66–8.20	T-27454W	W 861A	1082	189 2 A	TX	92	9	¼x3⅝	⅝ A
8	..... HCS195		170	189	48000	15300	10.00/20	11.00/22	Wau 140GK	6–5¼x5½	525	6.0	426	142–2200	7–3¾x13⅜	Y Fu	5A62–3A92	5	Own 195W	CD	R 6.04–7.31	T-3600MTW	W 861A	1080	189 2 A	TX	92	9	¼x3⅝	⅝ A
9	..... HCS265		182	193	60000	17750	11.00/20	12.00/24	Wau 145GK	6–5¼x6	779	6.2	585	186–2100	7–3½x17¾	Y Fu	4B86◆	4	Own 265W	CD	R 9.21–13.16	T-27454W	W 861A	1280	198 4 A	JX	91	12	3x3½	⅝ AL
10	..... HCS297		182	193	70000	20750	12.00/24	13.00/24●	Wau 145GK	6–5¼x6	779	6.2	585	186–2100	7–3½x17¾	Y Fu	4B86◆	4	Own 330W	CD	R 9.21–13.16	T-27454W	W 861A	1280	198 8 A	JX	91	12	3x3½	⅝ AL
11	..... HCS330		174	187	80000	23150	12.00/24	14.00/24●	Wau 145GK	6–5¼x6	779	6.2	585	186–2100	7–3½x17¾	Y Fu	4B86◆	4	Own 330W	CD	R 9.21–13.16	T-3600MTW	W 861A	1082	180 2 A	TX	92	9	¼x3⅝	⅝ A
12	(D) ..HCS195H		182	193	48000	16000	10.00/20	11.00/22	Cum HB600	6–4⅝x6	672	17	500	150–1800	7–4½x16½	Y Fu	4B86	4	T-SW3012PA	WF	L 4.71–6.17	T-3600MTW	W 861A	1160	191 2 A	JX	92	9	¼x3⅝	⅝ A
13	(D) ..HCS265H		182	193	60000	19100	11.00/20	12.00/24●	Cum HB600	6–4⅝x6	672	17	500	150–1800	7–4½x16½	Y Fu	4B86◆	4	Own 265W	CD	R 9.21–13.16	T-27454W	W 861A	1280	198 8 A	JX	92	9	¼x3⅝	⅝ AL
14	(D) ..HCS330H		174	187	80000	23450	12.00/24	14.00/24▲	Cum HB1D600	6–4⅞x6	672	17	500	150–1800	7–4½x16½	Y Fu	4B86◆	4	Own 330W	CD	R 9.21–13.16	T-27454W	W 861A	1280	198 8 A	JX	92	9	¼x3⅝	⅝ AL
15	Truckstell																														
16	(C) F2X28 2F		156	237	28000	6468	7.50/20◆	8.25/20-10	Ford	8–3⅛x3¾	239	6.8	180	100–3800	3–2 49x4 9/16	N	Ford	4	Ford■	SF	H 5.83–8.11	Ford	F61HV	502	835	●	TX	82½	7.08x2.88x¾	TL▼
17	(C) F2X29-0(60e) 2F		134	224	25500	7083	7.50/20◆	8.25/20-10	Ford	8–3⅛x3¾	239	6.8	180	100–3800	3–2 49x4 9/16	N	Ford	4	Ford■	SF	H 5.83–8.11	Ford	F61HV	502	835	●	TX	82½	7.08x2.88x¾	TL▼
18	(C) F2X28-7 2F		156	250	28000	7897	7.50/20◆	8.25/20-10	Ford	8–3½x4¼	337	6.4	255	145–3600	3–2 87x5 0	Y	Ford	5	Ford	Hy	H 6.8	Ford	F61HV	560	935	●	TX	82½	9x3½	25	TL▼
19	(C) F2X34-7 2F		156	250	34000	8100	8.25/20†	9.00/20-10	Ford	8–3½x4¼	337	6.4	255	145–3600	3–2 87x5 0	Y	Ford	5	Ford■	Hy	H 6.8	Ford	F61HV	560	935	●	TX	82½	9x3½	25	TL▼
20	(C) F2X34-8 2F		156	250	34000	8704	9.00/20‡	9.00/20-10	Ford	8–3½x4¼	337	6.4	255	145–3600	3–2 87x5 0	Y	Ford	5	Ford■	SF	H 6.5–8.87	Ford	F61HV	693	1081	■	TX	82½	9x3½	25	TL▼
	(C) F2X40 2F				40000	9309	9.00/20-10	10.0/20-10	Ford	8–3½x4¼	337	6.4	255	145–3600	3–x 87x5 0	Y	Ford	5	Ford■	SF	H 6.5–8.87	Ford	F61HV	833	1232	■	TX	82½	9x3½	25	TL▼
21	(C) C2X28 2F		157	247	28000	6629	7.50/20D	8.25/20-10	Chev.	6–3¾x3⅝	235	6.6	192	93–3100	4 Std. Chev	Y	Chev.	4	Chev.▲	HyF	H 6.17	Chev.	C61HV	530	808	●	21	82¼	8½x2¾x¼	CT▼
22	(C) C2X29-0(60e) 2F		130	224	29000	7204	7.50/20D	8.25/20-10	Chev.	6–3¾x3⅝	235	6.6	192	93–3100	4 Std. Chev	Y	Chev.	4	Chev.▲	HyF	H 6.17	Chev.	C61HV	530	808	●	21	82¼	8½x2¾x¼	CT▼

▲ Includes Cab.
■ Front only: Rear 8.25/20.
◆ Auxiliary transmission. Spicer 8031.
● Two speed axle with vacuum shift.
† Front only: Rear 9.00/20.
‡ Front only: Rear 10.00/20.
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‡ Cast Alloy Iron.

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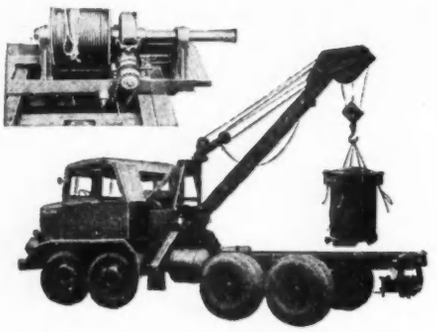

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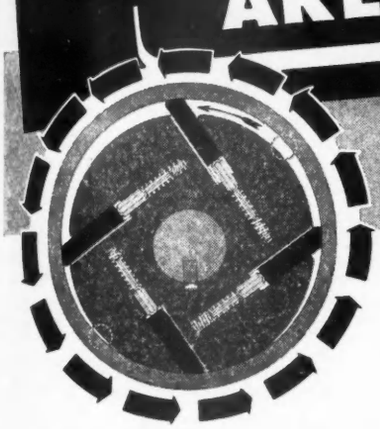

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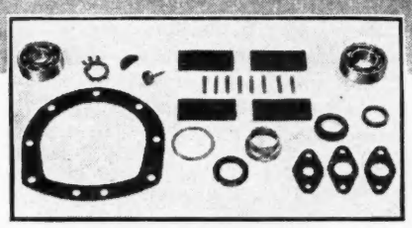
1 Wagner Air Brakes are the only air brakes that have the Rotary Air Compressor. Check these features: Rotary motion of all moving parts ... In running balance at all times ... Longer belt life due to more uniform torque loading ... Low friction losses—therefore high operating efficiency ... A predetermined air pressure range automatically maintained ... Operating parts are lightly stressed insuring long life and low maintenance ... *Extremely quiet in operation* ... Self-contained oiling system—uncontaminated by engine waste products ... Compact—requires minimum installation space ... Low operating temperature prevents carbon formation in compressor and delivery lines ... Adaptable to all types of automotive braking systems.

NATIONWIDE SERVICE FACILITIES

2 When you equip your vehicles with Wagner Air Brakes, maintenance is no problem—First, they require less maintenance than ordinary air brakes because of such outstanding engineering achievements as the Wagner Rotary Compressor and the Wagner Power Cluster. Second, when maintenance is necessary it can be handled quickly and economically regardless of where your vehicles may be operating.

A nationwide network of authorized distributors and factory service branches can give quick service on air brake maintenance. Manned by factory trained air brake repair experts, they can give you quick service and get your vehicles back on the highways in minimum time. Wagner also furnishes factory-rebuilt units and unit repair parts kits for fleet operators who prefer to do their own repair work.



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3 The unit exchange service provides a quick and economical means of handling Wagner Air Brake Maintenance.

When these exchange units are rebuilt, all parts subject to wear or deterioration are replaced with new parts—so that the rebuilt units are restored to their original operating efficiency. They carry the same guarantee as new units.

Complete Repair Parts Kits have been developed for each unit of Wagner Air Brake Systems. The parts making up each kit have been carefully selected so that when a unit is repaired in accordance with simple instructions its original operating efficiency and dependability is restored.

Both Unit Exchange Service and Repair Parts Kits are available from Wagner Distributors or any of the Wagner Service Branches located in all principal cities.

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The System With The Rotary Compressor

KU-7

A selected list of the latest literature—catalogs, pamphlets, charts—chosen to help fleetmen improve operation and maintenance

L184. Packaged Safety

"Packaged Safety" in the form of a complete accident prevention program is being offered American industry without charge via industrial safety directors, plant superintendents and production executives interested in cutting down the accident toll.

The safety "package," known as the Green-Lite Safety Award Plan, consists of everything required for a concentrated anti-accident campaign covering a period of 90 working days. The plan is flexible and may be operated for a shorter period of time if desired.

The entire Green-Lite Safety Award Plan together with full operating instructions is contained in a standard file-size loose-leaf ring binder which is furnished free to each participating company. Distinguishing feature of the plan is that it provides each employe with a choice of desirable merchandise prizes, awarded to those who remain accident-free for stated periods of time.

A step-by-step procedure tells exactly how to set up the plan, how to enlist the cooperation of key people, and how to publicize the safety drive so as to arouse and sustain the enthusiasm of employes. Write L184 on the free postcard for copies of the plan.

L185. 6-Wheelers

Here is a 20-page booklet on 6-wheelers and tandem drive units that will prove both highly interesting and instructive to the fleet field. This illustrated publication provides valuable data on types of 6-wheelers on our highways today. A detailed account is given of the articulated and rigid types, with drawings provided to show operation and function of several variations of each.

The two types of tandem drive units are clearly explained in another chapter. The author discusses the "through" drive and the "inter-axle differential" to show operation, advantages and main parts of each. Various types of suspension systems fill out the section.

Two types of single reduction drives are described, the worm drive and the two bevel gear axles, with advantages and disadvantages listed for each. The double reduction drive receives similar attention, with cut-away photographs included to show operation and construction.

And finally the entire suspension system is reviewed, the load carrying members and the torque reaction system being explained in detail.

This booklet should be in the hands of every fleetman. Write L185 on the free postcard and add a copy to your files.

L186. Truck Lettering

A new pamphlet illustrating the step-by-step method of lettering trucks by means of pre-cut masks or stencils and a spray gun using the same material as the truck finish is now available for fleet owners.

In the manufacture of these masks, any style or size letter, logo-type or illustration can be duplicated. The masks are cut in quantity to give exact uniformity for all units. Trucks may be lettered in your shop by your workmen—no experience is necessary. This method is said to provide a better looking uniform fleet at all times at less cost.

Write L186 on the free postcard for a copy of this pamphlet.

L187. Alignment Data

Proper camber, caster, toe-in, king pin inclination and turning radius specifications for all makes of cars and trucks operating on the highways today, including 1949 models, are now offered to the trade.

Compiled from the official front end specifications set by the factories in each case, the information is carried on two sides of an 18 by 24-in. chart. The front end settings listed go back to the early 1920's and include every make and model built since that time. Charts are offered free of charge. Write L187 on the free postcard for a copy.

L188. Fork Truck Guide

A handy guide to fork lift truck operation is now available in the form of a 28-page, pocket-size booklet. The information presented, while designed for a particular make of truck, will prove valuable with any type fork lift. Directions include points on starting, clutching, braking, steering and lifting.

Especially valuable to the operator will be the sections on Helpful Hints. Tips include pointers on working in close quarters, turning sharp corners, entering railway cars, picking up and depositing pallets and cases, etc. The section on Know Your Loads shows how to handle types of containers most efficiently. Load and lifting techniques are outlined for cartons, bricks, etc.; bags; barrels; irregular pieces, etc. Illustrations and descriptions show how to stack and pile these items, how to place dunnage and how to use skids and pallets.

The last section of the book is devoted to tips on safety and efficiency in this type of work, with practical pointers outlined for better operation. This booklet is yours for the asking. Write L188 on the postcard for a copy.

EUCLID

USES SHULER AXLES

THERE ARE NO BETTER AXLES, AT ANY PRICE!

SHULER AXLE COMPANY, Inc.
Louisville, Kentucky

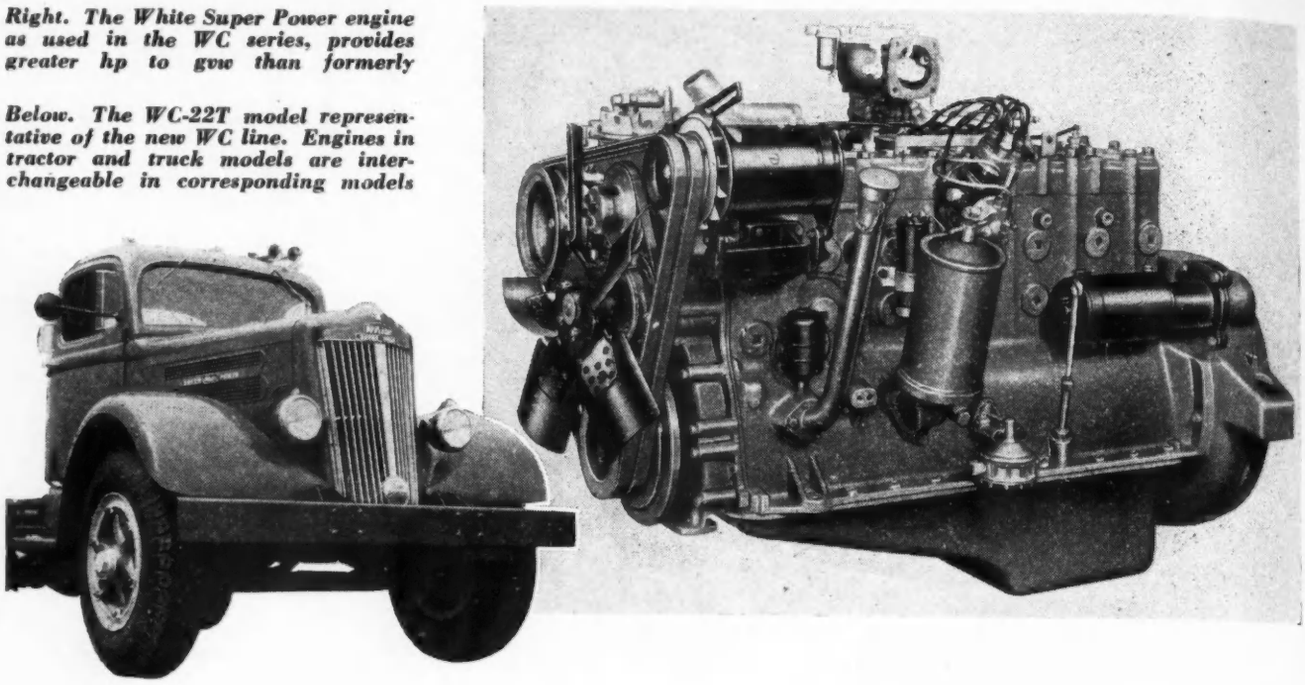
Since 1915, Manufacturers of: One-Piece Tubular and Square Trailer Axles, Front Axles, Machinery Trailer Axles, Machinery Front Axles, Front-Steer Trailing Axles, Heavy-Duty Brakes (Mechanical, Vacuum and Air), House Trailer Axles, Miscellaneous Forgings for Heavy-Duty Trucks and Trailers.

DETROIT OFFICE: 8424 Woodward Ave. • EXPORT DIVISION: 38 Pearl St., New York

WEST COAST WAREHOUSE: 1280 Forty-Fifth St., Oakland

Right. The White Super Power engine as used in the WC series, provides greater hp to gvw than formerly

Below. The WC-22T model representative of the new WC line. Engines in tractor and truck models are interchangeable in corresponding models



WHITE Introduces WC Series

New WC line embraces 8 trucks, 7 tractors and 3 6-wheel jobs to meet every demand

Condensed Specifications

	WC-14	WC-16T	WB-32
Engine model	110A	120A	280A
Bore and stroke	$3\frac{7}{8}$ x $4\frac{1}{2}$	$3\frac{7}{8}$ x $4\frac{1}{2}$	$4\frac{5}{8}$ x 5
Displacement	270 cu in.	318 cu in.	504 cu in.
Max. bhp	100	114	184
Wheelbase	136 in.	136 in.	146 in.
Clutch	11-in.	12-in.	$15\frac{1}{2}$-in.
Transmission	4 spds forward	5-speed	5-speed
Brake lining area	310.5 sq in.	341.5 sq in.	632 sq in.
Tires	6.50-20	6.50-20	9.00-20
Gross ratings:			
A	14,000	30,000	34,000
B	12,000	28,000	32,000
C	11,000	25,000	30,000

The White Motor Co. is now in production on a complete new line of White Super Power trucks and tractors featuring several engineering improvements.

The new WC line embraces eight trucks, seven tractors, and three 6-wheel jobs in a range of models to meet every demand, enabling operators to apply tailored vehicles to their exacting requirements.

The entire line of White models has more horsepower for the same gross weight capacity than former models, permitting greater sustained speed with shorter trip time and greater ease in traffic, longer vehicle life, new fuel economy, and lower maintenance cost.

Higher horsepower outputs and larger engines than in the comparable truck model are built into the new line. White now makes possible, in its WC tractor models, approximately the same ratio of horsepower to gvw as in the truck field, giving tractor operators the same advantages in speed, hill-climbing ability, longer life, greater fuel economy, and lower maintenance costs. The engines in both tractor and truck models are interchangeable in corresponding models.

Three new models fulfill special demands. These are the WC-16, WC-16T, and WC-32 models. The first two fulfill a rating demand between the WC-14 and WC-18 models, and the WC-32 is a heavy-duty model with 34,000 to 30,000 gross rating.

Single reduction axle is standard throughout the WC line with the exception of the WC-32 which is equipped with double reduction axle. The double reduction axle can be furnished with any model as optional equipment.

Vacuum hydraulic brakes are standard through the series up to model WC-28 in which air brakes are standard. The latter can be supplied as optional equipment on other models with the exception of the lightest—Model WC-14.

Dual carburetion, with White's six-port fuel metering manifold is standard on all White Super Power engines, as is a closed pressure cooling system.

The entire line with the exception of the WC-14 and WC-16 models carry transmissions which are direct in fifth. The other two offer four speeds forward.

An all-steel cab of new design is optional. This, with shock absorbers in front as well as rear, provides greater driver comfort, and the twin levering cam steering mechanism is a boon to easy driving. All operating devices are designed for efficiency and driver convenience.

USER REPORT:

"Our first Warner Electric Brakes were purchased over twenty years ago and some of the original brakes are still in operation"

ROYLE R. FREER, President
Freer Motor Transfer Company, Inc.
Chicago, Ill.

July 22, 1947

Warner Electric Brake Mfg. Co.
Beloit, Wisconsin

Gentlemen:

Forty pole and flat bed trailers in our fleet are equipped with Warner Electric Brakes. These trailers operate more than a million miles a year throughout Indiana, Illinois and the City of Chicago, hauling structural steel and steel from the various mills.

Our first Warner Electric Brakes were purchased over twenty years ago and some of these original brakes are still in operation. We are thoroughly convinced that the low original and maintenance cost cannot be surpassed by brakes of any other type.

Our service manager, Mr. John V. Lindholm, has been servicing Warner Electric Brakes on our equipment since the first pair was purchased. He is truly a Warner booster.

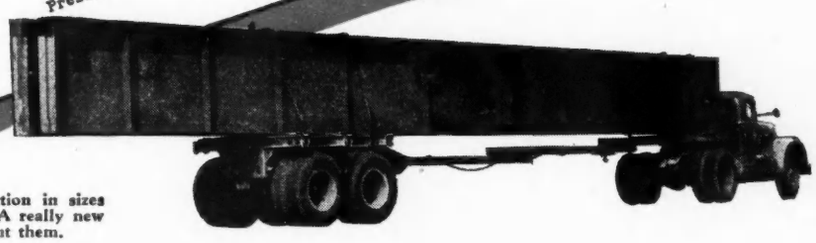
Our experiance with your brakes has been very satisfactory and we felt that you would appreciate learning these facts.

Yours very truly,
FREER MOTOR TRANSFER COMPANY, INC.
Royle R. Freer
Royle R. Freer
President

RRF/lh

© Fabian Bachrach

NEW!



Warner Electric Brakes of 2-shoe construction in sizes 16½" x 5", 16½" x 6", and 16½" x 7". A really new concept of super-stopping power. Ask about them.

Hauling structural steel on forty-pole and flat bed trailers over a million miles a year is record-breaking performance. Dependable, positive braking is a "must" on this gigantic operation. Warner Electric Brakes have been giving incomparable service on these huge trailers for over 20 years.

And for good reason! Because Warner Electric Brakes are *specifically engineered* to meet every trailer braking need. No other brakes equal their rugged construction, long lining life, positive control and dependable performance, even under the most severe conditions of heat, rain, snow, ice, and cold.

CHECK YOUR BRAKE PERFORMANCE AND MAINTENANCE COSTS!

If you want maximum safety plus economical performance, standardize on Warner Electric Brakes. Write for illustrated literature explaining their many advantages.

WARNER ELECTRIC BRAKE MFG. CO.
BELOIT, WISCONSIN

WARNER
ELECTRIC BRAKES

SINCE 1927

1948 New Truck Registrations by Makes by States*

STATE		Auto-car	Brock-way	Chev-rolet	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-na-tional	Mack	Osh-kosh	Reo	Ster-ling	Stude-baker	Ward La France	White	Willys	All Others	Total
Alabama	August			653	3		158	1	390		189	233	6		15		75		6	105	4	1,639
	8 Mos.			4925	46	21	1344	28	3650		1018	1706	101		175		543		102	995	28	14,682
Arizona	August			141			74	3	154		44	50	1		6		36		3	42	7	561
	8 Mos.	3		1161	6	14	440	12	938	2	281	342	8		68	5	264		38	235	29	3,846
Arkansas	August			833	12		158	2	477		183	175	1		32		91		9	219	2	2,194
	8 Mos.			4953	85	1	1307	27	3728	3	950	1449	42		266		561	1	72	1431	9	14,885
California	August	20	3	1451	32	37	951	5	1153	9	457	447	26		25	6	479		35	356	55	5,547
	8 Mos.	155	23	11908	270	309	6011	52	9430	52	3891	4265	219	6	170	75	2803		299	2576	407	42,921
Colorado	August			357	11	3	135	6	219	1	88	125	1		7		38		2	98	1	1,092
	8 Mos.	7		2393	97	30	850	44	2086	33	527	1342	16		66		364		41	785	8	8,689
Connecticut	August	10	4	166	16	8	69	7	149	1	41	67	15		4		42		7	79	7	692
	8 Mos.	62	60	1487	99	85	600	54	1264	11	379	726	132		51	8	346		75	513	38	5,992
Delaware	August	1		67	1		45	1	81		29	40	2				11			10	2	290
	8 Mos.	9	8	637	18	12	274	2	581		181	300	13		9		80		21	75	16	2,236
Dist. of Columbia	August			69			33	2	64		38	37			3		10		6	15	6	283
	8 Mos.	9	4	656	31	85	264	21	652		247	363	30		34	1	83		22	142	13	2,657
Florida	August			551	5	13	192	5	498		123	135	20		19		97		17	169	16	1,886
	8 Mos.	19		4530	94	24	1427	51	3042	3	682	1229	124		108		590	2	130	1085	125	13,285
Georgia	August			851	15	1	242	5	634		161	256	11		22		131		18	188	4	2,517
	8 Mos.	2	1	6489	230	6	1928	51	5642	2	1177	2626	175		264		935		170	1522	44	21,254
Idaho	August			207	21		110	1	185	2	65	94	2		25		82		3	103	9	909
	8 Mos.	1		1472	71	8	576	22	1147	4	420	732	24		114		460	2	39	618	47	5,757
Illinois	August	9		1333	95	7	484	9	1098		282	894	27		73	2	211		37	209	21	4,571
	8 Mos.	137	8	11204	841	307	4133	173	7217	9	2063	6264	309		603	8	1814	3	497	2615	231	38,435
Indiana	August		2	640	20	16	241	6	556		226	401	23		25		150		73	168	17	2,584
	8 Mos.	3	18	5195	207	146	1908	91	3961	5	1317	3090	99		225		1125		326	1364	159	19,239
Iowa	August			724	37	5	273	2	489	2	162	320	13		34		105		25	189	3	2,303
	8 Mos.	1		5268	309	51	1839	22	4283	14	908	2979	89	3	265		822	2	178	1451	26	18,508
Kansas	August			647	19		155	4	416		90	200	4		26		103		12	95	6	1,779
	8 Mos.	1	2	5693	176	22	1435	115	3727	3	841	2215	22		238		793		88	833	41	16,243
Kentucky	August	5		508	32	2	126	9	408		177	208	7		25		55		9	494	4	2,060
	8 Mos.	14		4287	191	21	1217	119	3406		870	1810	65		290		495	6	88	2423	47	15,349
Louisiana	August	2		481	50	1	143		426		105	175	4		13		53		8	110	12	1,583
	8 Mos.	4		3566	121	19	1111	12	2993	5	601	1323	56		83		509		84	849	71	11,407
Maine	August	1	1	173	1	3	46	2	115		51	68	5		10		26		1	59	1	563
	8 Mos.	2	15	1393	6	23	411	23	1168	1	390	666	50	1	97	4	259	1	17	329	15	4,871
Maryland	August	7	5	328	10	12	147	7	267		55	127	12		15		52		11	33	2	1,096
	8 Mos.	43	70	2982	47	58	985	66	2045	8	518	1165	137		116	5	364	3	91	426	25	9,164
Massachusetts	August	8	8	370	14	53	175	7	385	1	98	194	36		12	7	88		12	97	4	1,569
	8 Mos.	81	104	3069	138	319	1431	34	3238	12	772	1580	230	5	118	46	610	13	123	562	55	12,540
Michigan	August	4	4	607	7	7	317	5	798		220	180	5		19		78		16	197	5	2,469
	8 Mos.	30	40	7425	144	275	3432	173	7247	6	2102	2, 316	109		334	1	985	5	288	1745	91	26,746
Minnesota	August	2		636	32	6	214	16	420	3	144	279	17		14		113	1	8	173	3	2,061
	8 Mos.	40		4779	210	62	1846	144	4081	28	914	2897	101	8	171	9	915	9	180	1047	42	17,403
Mississippi	August			660	9		147	3	415		155	213	13		12		68		5	138	1	1,839
	8 Mos.			4252	52		1042	21	3179		787	1255	93		129		440		53	886	18	12,207
Missouri	August	1		860	9	6	264	2	651		182	301	6		12		106		20	201	3	2,624
	8 Mos.	4	7	7038	159	132	2247	24	5213		1361	2816	75		146		804	1	217	1572	62	21,886
Montana	August	1		333	39		137	13	218		73	110	8		21		53		7	126	1	1,140
	8 Mos.	7		1843	117	7	721	62	1580	6	452	1159	24	1	150		396	5	45	886	24	7,485
Nebraska	August			441	47	4	177	3	255		64	194	3		13		63		9	140	3	1,416
	8 Mos.			3262	290	6	1193	28	2426	10	609	1989	63	1	73		585		96	1114	27	11,752
Nevada	August			52			23		36		12	12					13		1	15		164
	8 Mos.		1	311	11	1	167	2	260	3	92	124	4		4		106		4	83	8	1,181
New Hampshire	August			85		7	26		79		18	26	2		3		10			21		277
	8 Mos.	5	10	620	12	25	256	4	569	1	134	232	31		25	1	97		12	165	11	2,210
New Jersey	August	18	24	520	49	56	246	12	433	3	189	260	40		17	2	110		39	150	17	2,165
	8 Mos.	152	285	4166	281	288	1609	108	3310	19	1477	2066	443		132	7	742	9	242	1181	105	16,822
New Mexico	August			133	3		33	1	86	1	28	44			1		17		4	62	1	414
	8 Mos.	1		1408	34	3	376	16	875	2	270	450	11		19		164		32	218	15	3,894
New York	August	38	84	1194	69	75	698	26	1062	8	464	581	118	1	94	2	258	2	89	433	33	5,329
	8 Mos.	403	812	9557	831	685	5663	389	7831	95	3577	5721	1402	50	654	40	1992	131	816	3046	362	44,057
North Carolina	August	5		775	18	3	292	1	665		135	187	51		11		144		16	211	2	2,516
	8 Mos.	38	2	6221	80	41	2003	59	4751	135	702	1684	419		180	2	841		202	1477	199	19,036
North Dakota	August			286	12		52	12	254		52	172	7	1	17		43		5	101		1,014
	8 Mos.			1224	66		429	47	1158	5	208	1028	29	1	66		275		22	389	2	4,949
Ohio	August	11	3	1096	31	39	532	15	1012	1	354	515	32		41		197	1	63	368	20	4,331
	8 Mos.	77	19	9129	258	263	3800	180	7329	26	2273	4518	304		390	1	1432	4	700	2257	182	33,142
Oklahoma	August			617	6		195	2	474	5	100	301	2		24		92	1	16	190	1	2,026
	8 Mos.	3		4587	40	23	1380	25	3675	40	785	2232	36		195		548	1	120	1153	33	14,876
Oregon	August	6		374	21	3	257	4	305		154	214	14		12	6	97		21	178	26	1,696
	8 Mos.	50	1	2753	89	17	1344	55	2020	6	952	1445	113		90	22	655		148	972	251	10,983
Pennsylvania	August	25	49	1339	85	14	621	30	1181	1	458	716	127		80	6	313		103	433	35	5,816
	8 Mos.	304	485	10053	539	110	4715	245	8587	11	3112	5258	891	25	524	41	2066	5	847	2931	213	40,942
Rhode Island	August	3	1	82	6	4	24	1	64		23	37	4		2	4	12		3	21	2	293
	8 Mos.	81	25	718	64	130	377	10	613		240	510	47	1	54	7	172		59	186	31	3,325
South Carolina	August			459	4		87	1	270		69	84	13		5		53		13	100		1,158
	8 Mos.	1		3261	35		909	14	2133		485	665	72		101		300		75	570	41	9,663
South Dakota	August			143	11		67	3	121		44	142	1		9		30		3	84	2	660
	8 Mos.			1164	113	3	547	42	1033		295	1215	11		100		278		24	651	17	5,493
Tennessee	August		2	657	14	2	171	5	482		188	269	14		23		81		17	149	4	2,079
	8 Mos.	7	3	6231	159	29	1742	136	4718	2	1642	2633	179		250		796		223	1327	90	20,197
Texas	August	11		1711	45	15	699	6	1306	1	333	679	32		40		267		53	496	74	5,769
	8 Mos.	35	20	14686	304	120	4974	91	11295	7	2849	6163	252		378		2017	2	583	3708	272	47,756
Utah	August			187	8		81	5	184		55	66	5		8		47			74	6	726
	8 Mos.			1118	70	15	461	21	944	6	336	526	32		33		248		33	353	37	4,233
Vermont	August			98	3	1	33	1	71		26	24	3		2		19		3	21	2	307
	8 Mos.	5	15	685	23	11	243	20	728	1	235	486	49	6	45	3	183	10	26	335	22	3,131
Virginia	August	8	5	619	15	7	194	17	646		162	201	30		16		94		11	184	10	2,219
	8 Mos.	29	20	5065	103	58	1544	95	4255	6	902	1603	100		150		633	2	162	1105	77	15,909
Washington	August	1		334	11	7	269	1	360		137	221	9		14	3	149		16	121	1	1,654
	8 Mos.	18		3192	114	103	1514	23	2788	11	912	1734	95		119	19	775		99	821	108	12,445
West Virginia	August	4	1	275	13	3	122	4	254	2	120	94	14		11		25	1	9	136	3	1,091
	8 Mos.	21	39	2230	63	24	905	76	1790	7	750	780	131		109	1	298	7	124	1083	43	8,544
Wisconsin	August	3		645	42	26	223	7	457	2	197	373	8		34	1	130		29	225	7	2,409
	8 Mos.	23		4601	231	113	1660	86	3330	46	927	2562	107	26	241	17	732	1	229	1180	55	16,167
Wyoming	August			123	15		46	1	103	1	32	52	2		3		27	2	3	60		470
	8 Mos.	1		870	74	3	338	6	697	4	142	448	6		24		189	3	17	487	13	3,322
Total.....	August 1948	204	196	25891	1018	446	10184	281	20826	44	6852	10593	796	2	949	39	4644	8	876	7624	450	91,923
Total.....	August 1947	289	358	18931	905	293	10851	520	18342	59	2185	10553	1104	14	829	41	3652	40	1016	5298	632	75,912
Total...	8 Months 1948	1888	2077	205717	7649	4109	76928	3221	162613	650	47555	92689	7170	134	8246	323	33464	228	8175	53757	3883	720,476
Total...	8 Months 1947	3091	2885	137534	6849	3061	87043	3818	138919	792	33164	74624	6936	164	9021	405	27832	371	8682	31087	4561	580,639

*—Data from R. L. Polk & Co.

AUTOCAR

for top performance in ANY industry

★ Spreading asphaltic road oils is about the most exacting heavy-duty trucking job of all.

★ Only the finest heavy-duty truck design will stand up to such exceptionally heavy liquid loads daily.

★ A specified coating of asphalt, no more and no less, must be spread on every square yard of highway. To do this successfully, the truck must be precision-built for exact control.

★ It has to be a *big* truck. Large loads save time and money by eliminating frequent running back for more supplies.

★ For such a job, where dependability and stamina are all-important, James L. Collins, of Taunton, Mass. (Northeastern Asphalt Corporation), chose this sturdy Model U-90 Autocar.

AUTOCAR TRUCKS

THEY COST LESS, BECAUSE THEY DO MORE WORK

Manufactured in Ardmore, Pa. • Factory Branches and Distributors from Coast to Coast

FREIGHT VOLUME UP

The volume of freight transported by motor carriers in August increased 7.9 per cent over July and 18.9 per cent over August, 1947, according to statistics compiled by the Department of Research, American Trucking Associations, Inc.

Comparable reports received by ATA from 288 carriers in 43 states showed these carriers transported an aggregate of 2,826,583 tons in August, as against 2,618,747 tons in July and 2,376,826 tons in August, 1947.

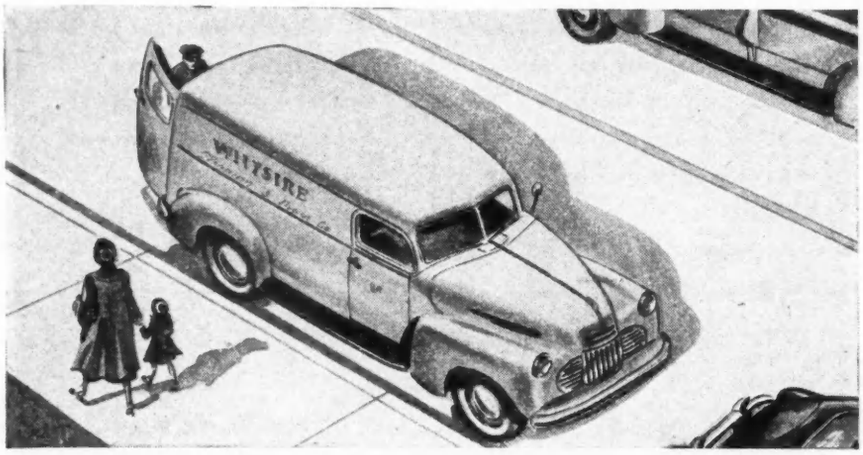
The ATA index figure, computed on the basis of the average monthly tonnage of the reporting carriers for the three-year period of 1938-1940 as representing 100, was 237.

FEDERAL TAX UP 129%

The Federal "tax inflation" on the highway user now amounts to 129 per cent since 1941, Arthur C. Butler, Director of the National Highway Users Conference, said recently.

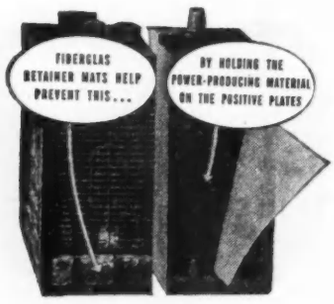
He reported that in the fiscal year ended June 30, highway users paid at least $1,118,345,000 in emergency Federal taxes on new cars, trucks, buses, motorcycles, gas, oil, tires tubes parts and accessories. The 1941 figure was $488,227,948.

(TURN TO PAGE 136, PLEASE)



The BEST Batteries Save You Money!

By helping to prevent lost time, helping to keep your costly equipment on the road, the *best* batteries save you money. And, because they usually last longer, they can give you extra value for your battery dollar, too. Heavier cases, bigger plates, *double insulation* . . . all pay handsome dividends in a heavy duty battery . . . help to withstand the high mileage, heavy drains and constant overcharging of tough service.



Here's How FIBERGLAS* Makes Good Batteries Better!

Practically all battery manufacturers *double insulate* their "best" batteries with Fiberglas Retainer Mats. These thin, porous sheets, made of fine, flexible, interlaced fibers of glass, hold the power-producing material on the plates longer, add substantially to the life of batteries.

FOR LONGER, BETTER SERVICE...GET BATTERIES DOUBLE-INSULATED WITH

OWENS-CORNING FIBERGLAS

*FIBERGLAS is the trade-mark (Reg. U.S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation, Toledo 1, Ohio.

DATES AND DOINGS

NOV. 1-5—Third Annual Course for Motor Vehicle Supervisors, Pennsylvania State College, State College, Pa.

NOV. 12-13—Associated Motor Carriers of Oklahoma Annual Convention, Skirvin Tower Hotel, Oklahoma City, Okla.

NOV. 13—New Hampshire Truck Owners Assn. Annual Convention, Manchester, N. H.

NOV. 15-19—First Annual Seminar in Problems and Policies of Motor Vehicle Fleet Management and Safety Supervision, New York University, New York, N. Y.

NOV. 15-19—Fleet Supervisor Training Course, University of Florida, Gainesville, Fla.

DEC. 2-4—Oregon Motor Transport Assn. Convention Multnomah Hotel, Portland, Ore.

DEC. 6—Missouri Bus and Truck Assn. Convention, Hotel Governor, Jefferson City, Mo.

DEC. 6-10 — Automotive Service Industries Show, Navy Pier, Chicago.

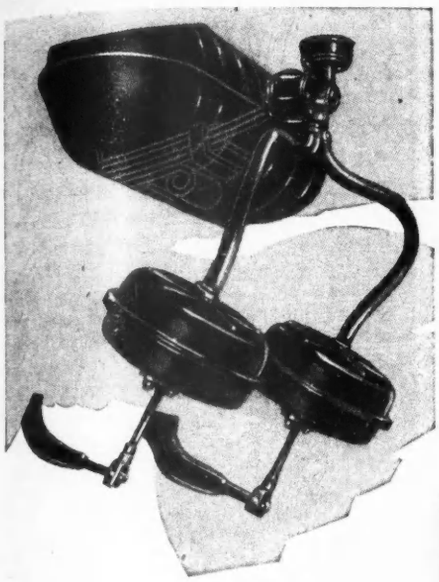
DEC. 9-11—Montana Motor Transport Assn. Convention, Northern Hotel, Billings, Mont.

JAN. 10-14—SAE Annual Meeting, Book-Cadillac Hotel, Detroit, Mich.

JAN. 17-19—Truck - Trailer Mfrs. Assn. Inc., Annual Convention, Edgewater Gulf Hotel, Edgewater Park, Miss.

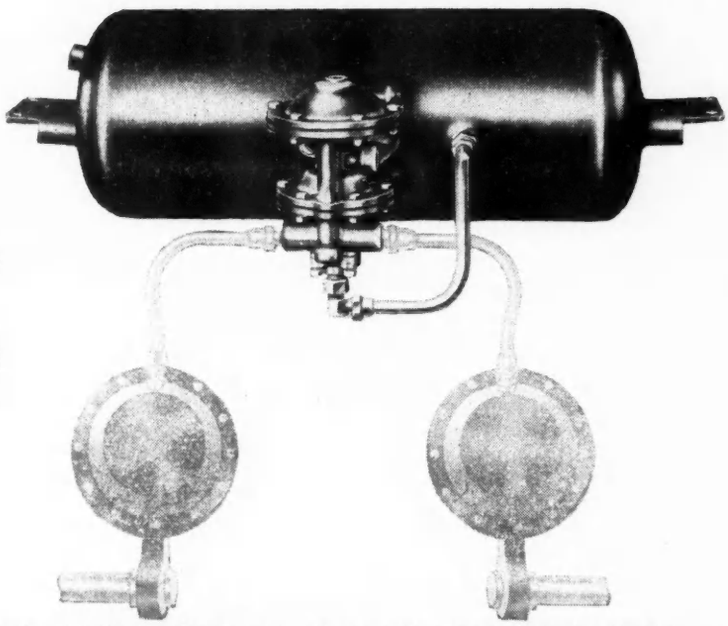
JAN. 27-28—National Council of Private Motor Truck Owners Annual Meeting, Claypool Hotel, Indianapolis, Ind.

MARCH 28-30—Society of Automotive Engineers National Transportation Meeting, Statler Hotel, Cleveland, Ohio.



UNIVERSALLY USED
FOR YEARS
MIDLAND'S
COMPACT TRAILER
VACUUM INSTALLATION

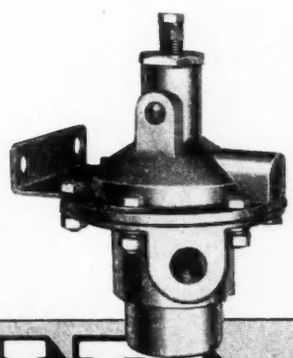
NOW *MIDLAND'S*
AIR TANK AND EMERGENCY RELAY VALVE ASSEMBLY
FOR TRAILER AIR BRAKES



AVAILABLE FOR IMMEDIATE SHIPMENT

- LARGE CAPACITY
- QUICK APPLICATION AND RELEASE
- SIMPLIFIED INSTALLATION
- POSITIVE LEAK-PROOF EMERGENCY APPLICATION
- MOUNTING INTER-CHANGEABLE WITH VACUUM TANK
- EASY TO SERVICE

FOR SYNCHRONIZED BRAKES USE MIDLAND'S →
HYDRAULIC SYNCHRONIZING VALVE



THE MIDLAND STEEL PRODUCTS COMPANY
6660 MT. ELLIOTT AVENUE • DETROIT 11, MICH.
Export Department: 38 Pearl Street, New York, N. Y.

MIDLAND
POWER BRAKES

GIVE THEM
"Swift Shifts"

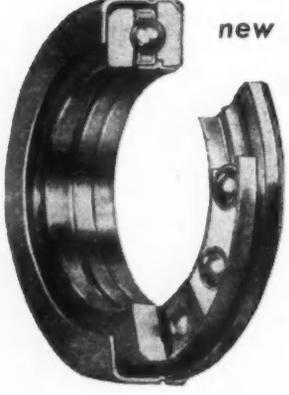
WHEN drivers complain about noisy or erratic shifting, page Swishy—he's the greased lightning of slick shifts.

He's the smoothie who shoos away friction.

He's the swift, sure, smooth, silent performance you'll find in the many new cars and trucks that use BCA Ball Bearings as standard equipment.

AND HE'LL KEEP TELLING YOU:

When you rebuild a clutch or do a major overhaul, always include new BCA Bearings as protection against extra downtime



When you buy bearings, look for the Jobber displaying Swishy and always ask for BCA Ball Bearings.

LOOK FOR *Swishy* ON DISPLAY

ALWAYS ASK FOR BCA

BCA
RADIAL-ANGULAR CONTACT-THRUST
BALL BEARINGS
Bearings Company of America, Lancaster, Pa.

CCJ Newscast

(CONTINUED FROM PAGE 134)

TIRE SHIPMENTS DOWN

Manufacturers' shipments of truck and bus tire casing were down 3.60 per cent in August to 1,258,919 compared with 1,305,968 the previous month. Production of 1,193,942 casings was slightly higher than the July total of 1,155,797. Manufacturers' inventories were slightly reduced to 1,872,354.

Shipments of automotive tubes were up 1.61 per cent to 6,917,140 against 6,807,414 shipped the previous month, while the production total of 6,638,552 was 15.46 per cent higher than the July figure of 5,749,632 tubes.

ATA AWARDS

Pacific Intermountain Express, Salt Lake City, Utah, was announced winner in the unlimited class for local and long distance truck lines in the Fourteenth National Truck Safety Contest of the American Trucking Associations, Inc. At the same time, the company was adjudged winner of the Trailmobile Trophy, awarded annually by the Trailmobile Co., Cincinnati, on the basis of the competing companies' overall program for highway courtesy and safety. Second place was won by Red Star Transit Co., Inc., Detroit, while third place was won by Yellow Transit Company, Oklahoma City.

The Texas Motor Transport Association, Inc., Austin, Tex., was judged winner in the motor truck association division of the 14th National Truck Safety Contest sponsored by ATA.

Awards for no-accident driving over periods ranging from one to 13 consecutive years have been forwarded to Hart Motor Express, Minneapolis, for presentation to 15 of the company's drivers. Topping the list with 13-year awards are Orley Greene, Harold Sangren and Albert Franklin.

BODY BUILDERS' FIRST CONVENTION

First annual convention of the National Truck Body Mfrs. Assn. was held Oct. 1 and 2 at the Edgewater Beach Hotel in Chicago.

W. D. Johns of the Gertsenslager Co. of Wooster, Ohio, was elected president of the association. Vice-presidents are: Wm. C. Black of Jersey City, N. J., E. E. Miller of De Kalb, Ill., and R. W. Allen of Redwood City, Cal. R. R. King of Oklahoma City, Okla., was elected secretary-treasurer.

ATA CHECKS POPULAR

Latest figures on the rapidly-growing use of the American Trucking Associations' standardized check form show that truck lines all over the country have ordered a total of 2,668,000.

(TURN TO PAGE 139, PLEASE)

CCJ Newscast

(CONTINUED FROM PAGE 136)

1948 Truck Trailer Production*

	August	Eight Months
Vans:		
Insulated and refrigerated	164	1,470
Furniture	63	376
All other closed top	1,466	11,835
Open top	173	1,273
Total Vans	1,866	14,954
Platforms:		
With cattle and stake racks	174	1,073
With grain bodies	55	373
All other	415	3,279
Total Platform	644	4,725
Tanks:		
Petroleum	251	2,219
All other	30	270
Total Tanks	281	2,489
Pole and Logging:		
Single Axle	144	1,592
Tandem Axle	181	1,269
Total	325	2,861
Low-bed heavy haulers	157	1,256
Off-highway	40	529
Dump trailers	141	2,028
All other trailers		
Total Complete Trailers	3,454	28,842
Trailer Chassis	168	1,422
Total Trailers and Chassis	3,622	30,264

*Industry Division, Bureau o the Census.

INDUSTRIAL NOTES

Fourteen states will be served by the huge Delaware parts distributing center opened October 8 at Newark Del., by the Parts Division of Chrysler Corp.

The huge building includes nearly 16 acres of floor space, with facilities for handling and shipping MoPar replacement parts for Plymouth, Dodge, DeSoto and Chrysler vehicles and Chrysler Industrial and Marine engines.

The AC Spark Plug division of General Motors was granted a permit for a building of approximately 150,000 sq. ft., which will be added to its spark plug plant in Flint. The new addition will be used for storage purposes.

A recently completed plant with modern assembly line production methods, revamped management and financing, is announced by Les Oltman, owner and president of Oltman-O'Neill. By acquiring the holdings of former stockholders, Mr. Oltman now becomes sole owner of the company.

As an aid in determining the exact requirements of individual truck buyers, The Studebaker Corp. has published an up-to-date edition of the Truck Analysis Guide for the company's new line of 1949 truck models.

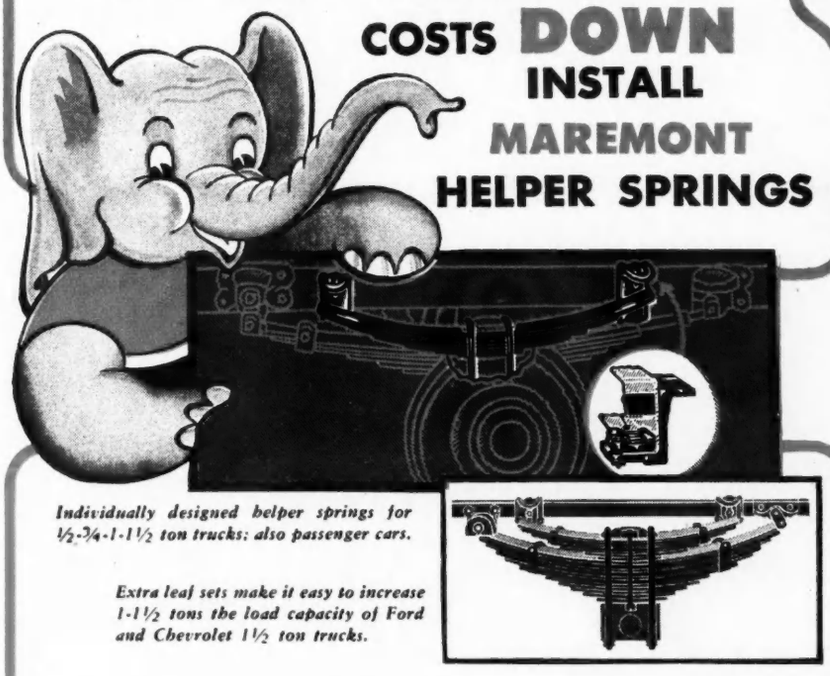
'Quick Reference Chart of Fast Moving Chassis Parts and Kits,' recently distributed by the Ford Motor Co., contains a series of exploded views of Ford car and truck parts assemblies. Each part is marked with its Ford part number to assure proper and easy identification of individual requirements.

1948 Domestic Truck Factory Sales by Gross Vehicle Weights*

	5,000 & Less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	26,690	15,458	11,641	17,685	5,615	3,166	1,638	83,893
February	32,776	15,623	12,308	16,733	5,983	3,666	1,800	88,889
March	44,110	21,222	15,890	24,237	6,708	4,437	1,968	118,572
April	43,441	20,671	13,910	21,163	6,667	4,039	2,020	111,911
May	37,114	17,132	13,898	18,386	4,734	4,018	1,627	96,909
June	37,244	19,741	13,503	18,794	6,310	4,371	1,792	101,755
July	35,481	20,716	13,105	19,038	5,063	3,501	1,345	98,249
August	38,554	20,744	13,538	16,421	3,595	2,856	1,514	97,222
Total—8 Months	297,410	151,307	107,793	152,457	44,675	30,054	13,704	797,400

* Automobile Manufacturers Association.

KEEP YOUR PAYLOAD UP..
COSTS DOWN
INSTALL
MAREMONT
HELPER SPRINGS



Individually designed helper springs for ½-¾-1-1½ ton trucks; also passenger cars.

Extra leaf sets make it easy to increase 1-1½ tons the load capacity of Ford and Chevrolet 1½ ton trucks.

• Low initial cost is rapidly repaid in extra payloads, lower maintenance charges, maximum protection.

Quick and easy to install, MAREMONT HELPER SPRINGS give your fleet extra payload capacity—at minimum maintenance cost! Cut down physical wear and tear, prolong the life and performance of your vehicles.

Made of fine quality silico-manganese steel, these superb springs are *Individually Engineered* for every popular model truck and car. This means a perfect fit, positive performance. Frame brackets are made of heavy malleable iron for longer wear and better service.

MAREMONT HELPER SPRING sets are complete with brackets, bolts and springs—ready for immediate installation. No special tools required.

See your nearest Maremont distributor or Spring Service Station for Maremont's *complete* line of springs, helper springs and spring parts.

ALSO MANUFACTURERS OF MAREMONT MUFFLERS AND TAIL PIPES

SINCE 1877

MAREMONT SPRINGS

MAREMONT AUTOMOTIVE PRODUCTS, Inc.
1600 S. Ashland Ave. Chicago 8, Ill.
Factories at Chicago, Cicero and Harvey, Ill.

WASHINGTON RUNAROUND

New European Lend-Lease Means More Trucks . . . A Proposal for 6000 Miles Between Oil Changes Steel for Trailers Short . . . More Cold Rubber for Tires . . . Commissions in Transport Reserve

FOR SAFER DRIVING

•

FOR GREATER CONVENIENCE

NORLIPP

Improved

TRUCK MIRRORS

The NEW ADJUSTABLE stop on the Norlipp Nos. 425 and 426 Truck Mirrors offers greater security of placement, yet wider flexibility in moving mirror for driving convenience. It holds mirror in exact position while driving, yet when truck is to be backed or driven into a narrow place, mirror and arm may be raised and then returned to former position without use of tools.

New cab mounting of one piece stamping adds durability to mirror. The diameter of telescopic arm has been increased to 5/8 inch. This larger diameter helps eliminate vibration. Water-proof construction—finished in durable baked enamel.

See your jobber for complete details

THE NORLIPP *Company*

5925 S. LOWE AVE., CHICAGO 21, ILL.

by ***GENE HARDY***

CCJ Washington Correspondent

New Lend-Lease Means Trucks

A multi-billion dollar arms lend-lease program for Western Europe is sure to be asked of Congress next year. If approved, large quantities of trucks are certain to be included in the program. The need for transportation equipment of all types in Europe is still acute. While truck producers are in a good position to supply trucks without much impact on domestic needs, the fact that such a program will include large varieties of other motorized equipment, such as self-propelled artillery, tanks, construction machinery, etc., coupled with steel shortages, might make trucks a little harder to obtain. Automobile production is sure to suffer.

ICC Safety Hearings Delayed

Public hearings on the proposed overall revision of the Interstate Commerce Commission Motor Carrier Safety Regulations have been further delayed. While the second draft has been checked and re-checked, internal delays and other pressing duties make it appear evident that public hearings cannot get underway before January 1.

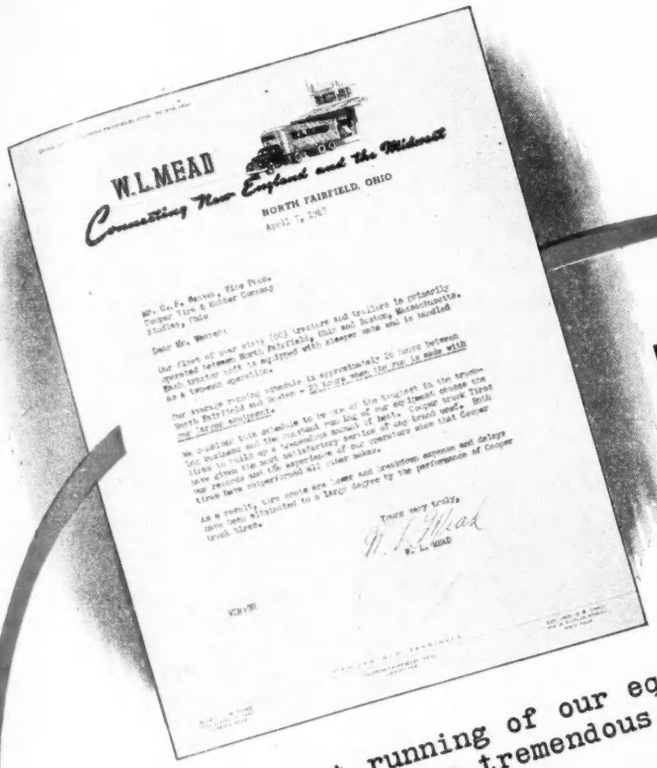
Limelight on Federal Fleets

Federal officials are becoming increasingly concerned over the appearance of government motor vehicles. The Interdepartmental Motor Equipment Committee has asked the various government agencies to take steps to correct such things as caved in radiator grilles, damage to doors and body panels, improper fastening of license plates and other identification tags, etc.

Driveaway Regs Tightened

The ICC after a recent compliance check of the new regulations affecting auto driveaway operations reports that the carriers are, in general, not having any difficulty in complying with mechanical requirements applying to dual saddle-mount and towbars. However, it was found that several of the mounting companies, firms performing this service for the driveaway operators, were ignoring the new regs. After conferences with the ICC, the operators pledged full support in securing compliance from the mounting firms.

(TURN TO PAGE 142, PLEASE)



profit by the experience of others

"The constant running of our equipment causes the tires to build up a tremendous amount of heat.

"Cooper truck tires have given the most satisfactory service of any brand used.

"Both our records and the experience of our operators show that Cooper tires have outperformed all other makes."

W. L. MEAD
North Fairfield, Ohio

Cooper
ARMORED-CORD
TIRES

Try cooler-running Coopers on your toughest hauls. Match them against any other brand. Let your own records prove that Coopers really make payloads more profitable.

DISTRIBUTED STRESS CONSTRUCTION is the important reason why tire dollars go farther when trucks roll on cooler-running Coopers. See your Cooper dealer and see him soon for complete details about DSC — how it works, how it protects against localized flexing and high friction heat.

Cooper Tire & Rubber Company

Factories at Findlay, Ohio

Washington Runaround

(CONTINUED FROM PAGE 140)

6000-Mile Oil

As part of its program of conservation of motor oil, the Federal Government is expected to approve a circular specifying a minimum period between engine oil changes of 6000 miles. On the basis of data secured from various sources, including the Bureau of Standards, Ordnance Department, and private fleet operators it is felt that this minimum period will be safe under all operating conditions except those of very extreme service. Primary reason for the new standard is the variety of practices now existing in the various Government agencies, which in many cases waste oil by specifying oil changes at periods which are too short, and by not requiring the use of an efficient oil filter.

50% More Apprentices

The number of registered auto mechanic apprentices increased 50 percent over a 12-month period, according to the Department of Labor. The number of apprentices in this trade listed with the Federal Committee on Apprenticeship or State Apprenticeship Councils on July 1, 1948, totaled 22,300.

Carriers Earnings Better

The earnings situation among Class I carriers looks somewhat better this year than it did a year ago, according to an ICC study of more than 1600 Class I intercity carriers. Operating revenues were up 27.9 per cent over the first quarter of 1947. Tonnage was up 15.6 per cent and truck and tractor mileage 19.1 per cent. With expenses increased by 26.7 per cent over the same quarter of 1947, the operating ratio declined to 93.7 from 94.6, with net income up 44.2 per cent.

No Funds for Census

Transportation interests, particularly the trucking industry, were disappointed last month when it was learned that the Census of Transportation covering the year 1948 will not be taken. While Congress during the last session authorized such a census for the first time, adequate funds were not appropriated and Secretary of Commerce Charles Sawyer has announced that under these circumstances the Comptroller General has ruled that this census cannot be taken. Under the law, the next such census will be taken in 1954 to cover the year 1953.

Transport Reserve Commissions

Commissions in the Officer's Reserve Corps are now open to men with highway transport vehicle operating and maintenance experience, despite the fact that they may not have had any previous military experience. To persons with sufficient experience commissions are available in the Highway Transport Service from the rank of second lieutenant up to colonel.

In the trucking industry, this new

(TURN TO PAGE 144, PLEASE)

"Easy Does It" with Safety 5th Wheels! Easy coupling. Easy uncoupling. Ease of mind, *always.* It's easy to tell when these wheels are locked. Owners find them *easy* on their pocketbooks.

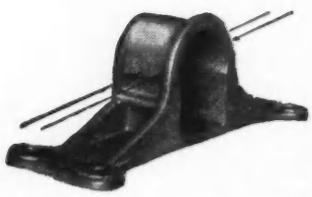
SIMPLICITY YOU'LL LIKE

Safety 5th Wheels are easy to maintain. Simple shimming—*without* removing wheel—controls end-play or slack. Heavy trunnion bearings end bracket troubles. Patented jaw and lock design absolutely *prevents* accidental uncoupling. It's easy to see how 40 years of railroad coupler experience has made these better 5th wheels *really* safe.

SERVICE WHEREVER YOU GO

And Safety 5th Wheels are easy to buy. There are dealers and distributors on all major truck routes from coast to coast—*everywhere* you are; everywhere you *go.* Find out today how easily Safety 5th Wheels can save *you* time and money, work and worry. Automotive Division, American Steel Foundries, 400 N. Michigan Ave., Chicago 11, Illinois.

The new Series 400-C. Dealers and distributors wherever you go.



Sockets on the plate fit well down over the trunnions so that tractor *pull* is transmitted in a *straight line.* Plate won't "lift" under power or braking.

A·S·F Safety 5th WHEEL

Plaque to Wentzel

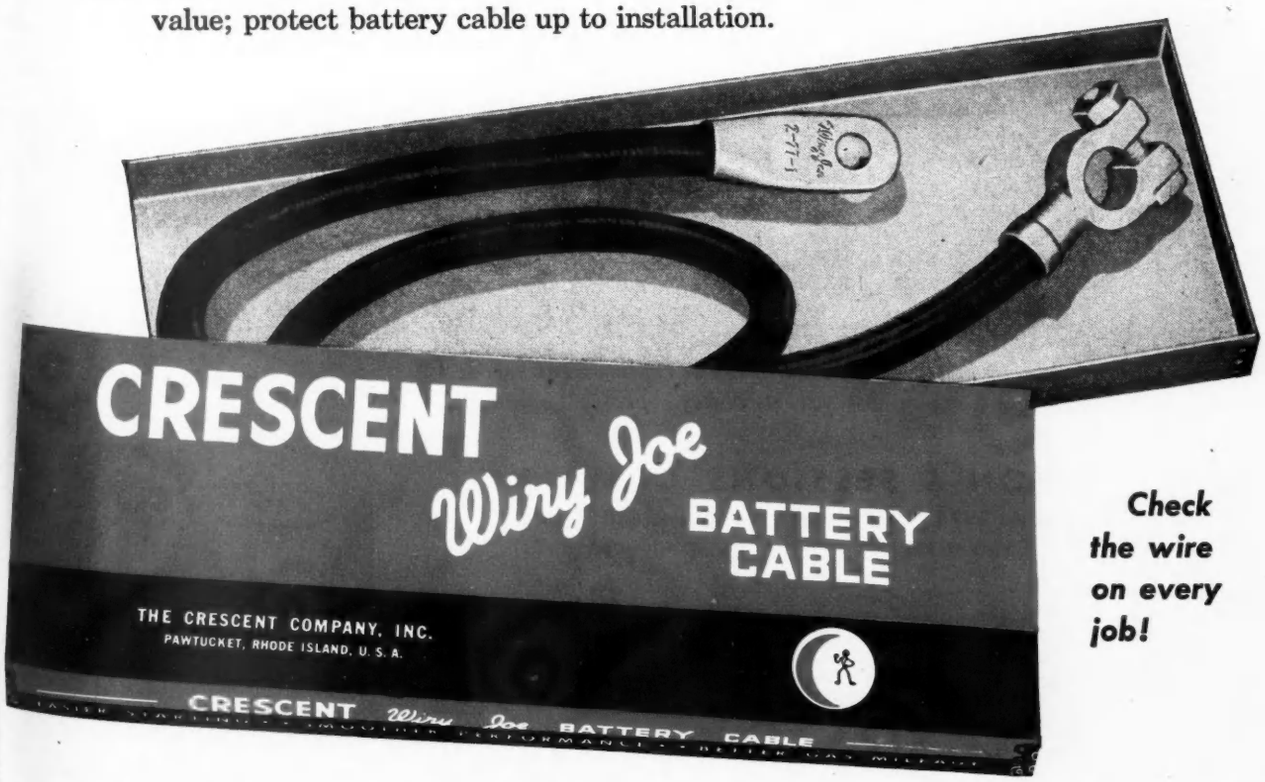
Nelson B. Wentzel (right), Deputy Third Assistant Postmaster General, is presented with bronze plaque at 31st Annual Conference of the Direct Mail Advertising Assoc. in honor of his 42nd year with the post office and "as a tribute of appreciation for his long service in the best interests of American business and direct mail advertising." Edward N. Mayer, Jr., made the award.

HERE'S *Longer Life* FOR BATTERIES

Replacing a worn or inadequate battery cable with a new Crescent-Wiry Joe Battery Cable gives any battery a new lease on life. These full No. 1 gauge cables deliver full battery voltage to starter and plugs. Drain on the battery is minimized. This means more power for the starting motor.

CRESCENT-WIRY JOE MAROON CABLES INCORPORATE ALL THESE FEATURES

1. Distinctive maroon finish—modern from lug to terminal.
2. Extremely heavy brass terminal, lead coated.
3. Electronically soldered connection, using the most modern equipment in which 400,000 cycles per second of high frequency current is employed, making the perfect connection, eliminating burned insulation, leaving a perfect maroon finish.
4. Pressure-welded copper lug.
5. High gloss lacquer finish, proof against oil, grease, heat, abrasion.
6. Full No. 1 gauge copper conductors.
7. Attractive sturdy packages of modern design increase shelf value; protect battery cable up to installation.



Check the wire on every job!

WHEN NEXT IN OUR NEIGHBORHOOD, DROP IN . . . SEE HOW CRESCENT-WIRY JOE AUTOMOTIVE CABLE IS MADE FROM COPPER TO FINISHED PRODUCT IN ONE PLANT UNDER ONE ROOF

Washington Runaround

(CONTINUED FROM PAGE 142)

policy applies particularly to members of the industry who may have an opportunity to serve in one of the many affiliated units of the Organized Reserve Corps.

Full information, including necessary qualifications for the various commissions available to members of the trucking industry, may be obtained from Army recruiting stations, National Guard units, or Reserve units.

Registrations Set New Record

Motor vehicle registrations in the United States this year will exceed 41,000,000, topping all previous records, according to a preliminary report of the Public Roads Administration. Total registration of trucks and buses this year is expected to reach 7,332,000, an increase of approximately 691,000 or 10.4 percent over last year's total of 6,641,611 registrations.

Total registrations of privately-owned automobiles and commercial vehicles is estimated at 40,557,000 vehicles, an increase of approximately 3,200,000 or 8.6 percent above the 37,360,463 registered last year.

Registration of public vehicles owned by Federal, State, county and municipal governments, estimated at 500,000, will bring the total registration for the year to more than 41,000,000.

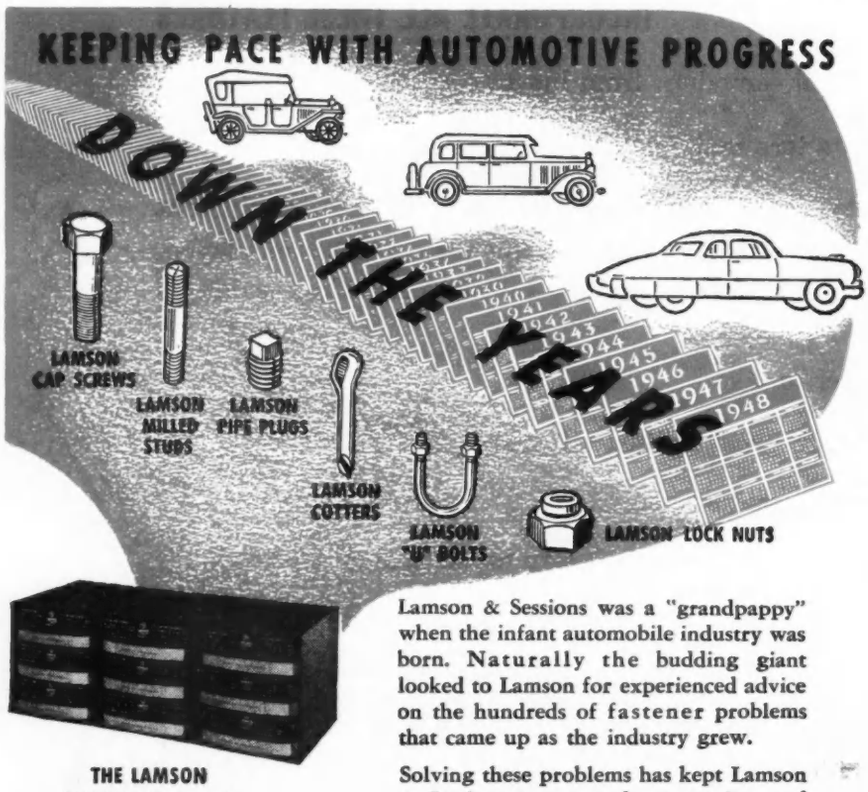
The five states having the largest estimated registration are California, New York, Pennsylvania, Texas, and Illinois, in that order. Motor vehicle registrations in 12 states are expected to increase 10 percent or more.

Steel for Trailers Short

Production of truck-trailers during August amounted to 3,622 units, according to the latest report of the Bureau of the Census. This total represents a slight increase over the 3,429 units turned out during July. Meanwhile, trailer producers, already hurt by steel shortages, received another blow last month when the steel industry told the Commerce Department it would not agree to any additional programs for voluntary allocation of steel except for national defense purposes. Trailer makers, along with truck body and tank truck builders, had requested the Department of Commerce to obtain an allocation of steel in order to maintain production levels.

More Cold Rubber for Tires

Better quality tires, in increasingly large quantities, will become available during the next year as a result of the Reconstruction Finance Corporation's plans for an eight-fold increase in the output of "cold rubber." Refrigeration equipment will be installed in eight government-owned rubber plants. This rubber, produced at near-freezing temperatures, results in about 30 per cent longer milage, according to RFC. This statement is based on exhaustive road and machine tests. The program, which is scheduled to be completed within the next 12 months, will increase output of "cold rubber" from 21,000 to 183,000 tons annually.



THE LAMSON "TREASURE CHEST"

Lamson & Sessions was a "grandpappy" when the infant automobile industry was born. Naturally the budding giant looked to Lamson for experienced advice on the hundreds of fastener problems that came up as the industry grew.

Solving these problems has kept Lamson & Sessions young and progressive, and has led to the development of the finest line of modern automotive fasteners on the market.

That's one reason why today Lamson & Sessions *is the country's largest supplier of fasteners for the automotive replacement market!* And it's a good reason for you to *always specify Lamson.*

THE LAMSON & SESSIONS COMPANY

General Offices: 1971 West 85th Street, Cleveland 2, Ohio

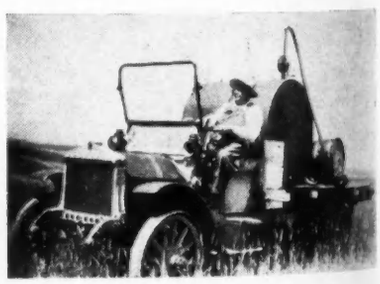
Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

Automotive Fasteners

LAMSON & SESSIONS

Ask your distributor for the Lamson Line

32-Year Veteran



Charles V. Slusser, 71, and his ancient Federal truck have been doing farm work together for more than 32 years. He bought it new in 1916 and has been using it continuously ever since covering 60 to 75 miles a day. It is a 2-ton, Model S12, powered by a 30-hp Continental engine.

CUMMINS
Dependable
DIESEL
SINCE 1919...PIONEER OF PROFITABLE POWER THROUGH HIGH SPEED DIESELS

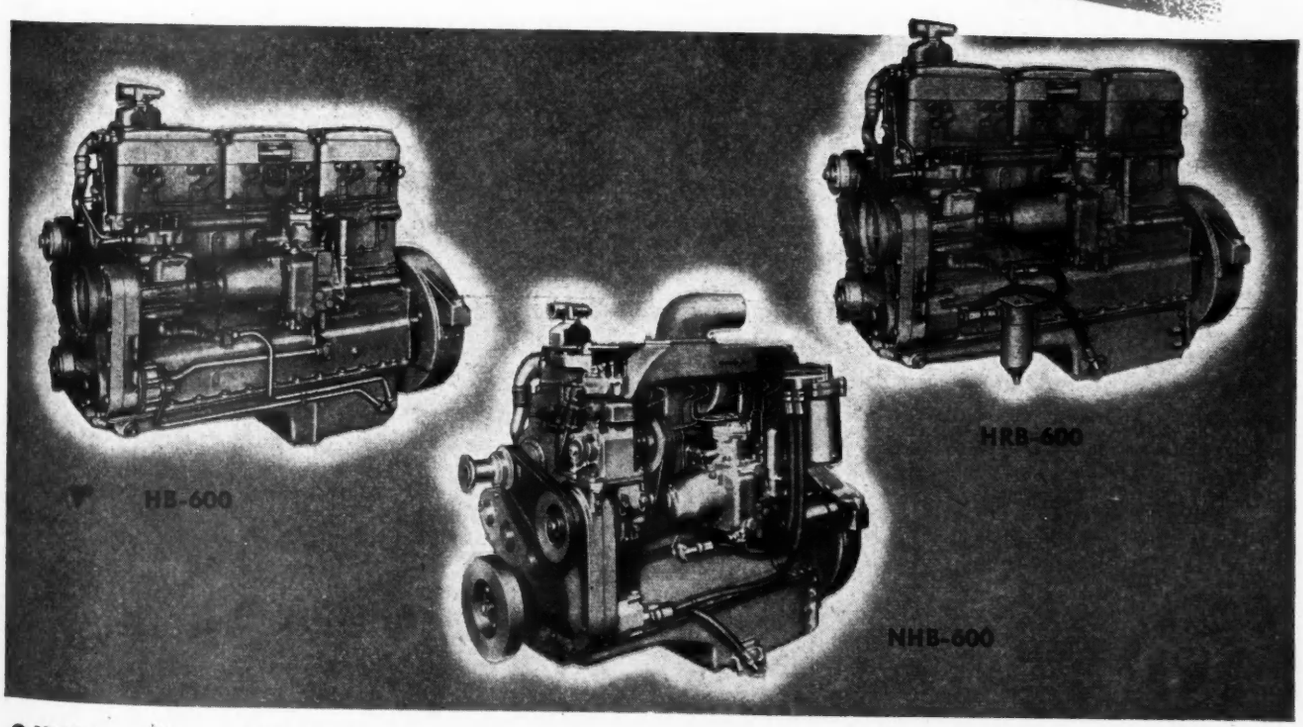
On either long runs or short hauls, with all kinds of payloads, Cummins Diesels are establishing records for miles traveled and money saved . . . proving they have what it takes for the tough jobs.

Cummins Diesels pull your rigs up the steep grades one or two gears higher . . . maintain their horsepower output hour-after-hour . . . take quick changes in altitude and temperature in stride.

That's why you can cut both your running time and your operating costs by standardizing on Cummins Diesels. In the full line of Cummins Diesels, there's an automotive model for every heavy-duty trucking need.

CONDENSED SPECIFICATIONS

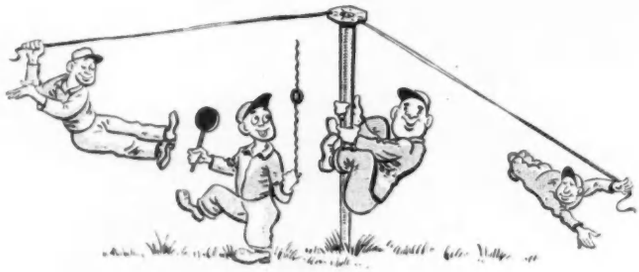
MODELS	AA-600	HB-400	HB-600	HRB-600	HBS-600	NHB-600	NHBS-600
Cylinders	6	4	6	6	6	6	6
Bore (Inches)	4	4⅞	4⅞	5½	4⅞	5½	5½
Stroke (Inches)	5	6	6	6	6	6	6
Disp. (Cu. In.)	377	448	672	743	672	743	743
HP (Max.)	100	100	150	165	200	200	275
RPM (Max.)	2200	1800	1800	1800	1800	2100	2100



CUMMINS ENGINE COMPANY, INC. • COLUMBUS, INDIANA

TIME OUT FOR PLAY

by
BORIS RANDOLPH



SOARING REPLACEMENT COSTS

Urge You to

Guard What You Have

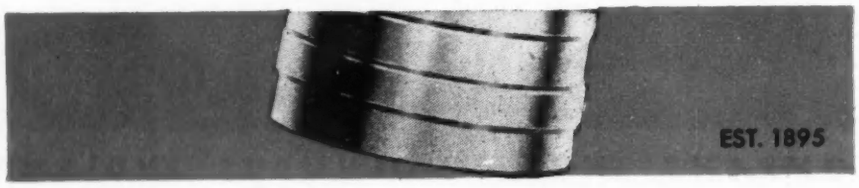
BUFFALO better-built

FIRE EXTINGUISHERS

● Protect against fire by having every vehicle and every vulnerable location in your garage or shop equipped with a dependable fire extinguisher. Don't allow a small fire to become destructively big during those crucial moments it takes to bring an extinguisher from some other location. Be prepared to fight any fire *instantly*.

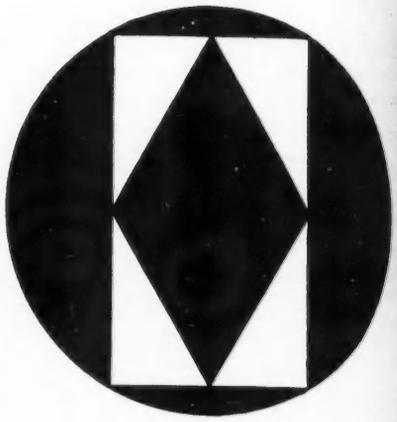
We suggest those extra extinguishers you need, and which should be added immediately, be Buffalo *better-built* Fire Extinguishers. Now is the time to talk to your Buffalo representative who probably is listed in the classified section of your telephone directory. If he isn't, please write directly to us.

BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON 1, OHIO



SIMPLE (?) LOGIC

Without measuring or figuring on paper, (or in any other way stripping your gears), just by ordinary reasoning, what is the length of any one of the sides of the diamond in the rectangle below if the diameter of the circle is 6 inches?



TURN HAULS INTO MONEY

Turning hauls into money is something every truck operator loves to do, and the following word game illustrates that it need not be too difficult. Beginning with the word HAULS, simply change one letter at a time and form a new word each time according to the definitions until you reach the word MONEY.

	H	A	U	L	S
Assembly rooms	—	—	—	—	—
Shaded walks	—	—	—	—	—
Gangster girls	—	—	—	—	—
Beauty marks	—	—	—	—	—
A great prophet	—	—	—	—	—
To shuffle along	—	—	—	—	—
	M	O	N	E	Y

FOUND IN PAYLOADS

Each of the items described below can be spelled with the letters contained in the word PAYLOADS. How many can you find? Each letter may be used in a word only as often as it occurs in PAYLOADS itself.

1. A load of cleaning material — — — P
2. A load of cushions — A — —
3. A load of lettuce S — — — —
4. A load of tree juice — A —
5. A load of bicarbonate — — D —
6. A load of garbage — L — —
7. A load of pea shells — — — S
8. A load of Shakespeare — L — — —

DON'T PEEK

But solutions will be found on page 160

MōPAR *Power Line* BATTERIES

Fleet owners who have 'em—like 'em!

That's because MōPAR Power Line Batteries can give and take. They can give that long-life, dependable power because their sturdy, tough construction enables them to take long, hard service.

And here's another reason why more and more fleet owners are making MōPAR Power Line Batteries first choice. These powerful, rugged replacement batteries are designed by Chrysler Corporation engineers, are made solely for Chrysler Corporation—Parts Division, and are distributed exclusively through Plymouth, Dodge, De Soto and Chrysler dealers.

To owners of cars and trucks built by Chrysler Corporation this means added assurance of top quality and performance.

Next time you replace batteries in your fleet vehicles, choose dependable MōPAR Power Line Batteries. They'll save you money in the long run!

CHRYSLER CORPORATION • PARTS DIVISION • DETROIT 31, MICHIGAN

Here's where to go for MōPAR *Power Line Batteries*

You can get MōPAR Power Line Batteries from your nearest Plymouth, Dodge, De Soto or Chrysler dealer.

USE CHRYSLER CORPORATION PARTS DIVISION
MōPAR
PARTS AND ACCESSORIES
FACTORY ENGINEERED AND INSPECTED

Approved by Chrysler Corporation Engineers for...

PLYMOUTH · DODGE
DE SOTO · CHRYSLER CARS
DODGE *"Job-Rated"* TRUCKS

DETROIT DISPATCH

More Army Truck Bids Coming . . . Uniform GVW Rating in Sight . . . Performance Ratings Being Considered by States . . . Another Price Round May Be Coming . . . Some Tires Not Too Plentiful

don't play BLINDMAN'S BUFF with profits!

Don't guess how to cut operating costs. There's one sure way to get longer tire life, save 90% of costly roadside flats* and to keep payloads moving on time.

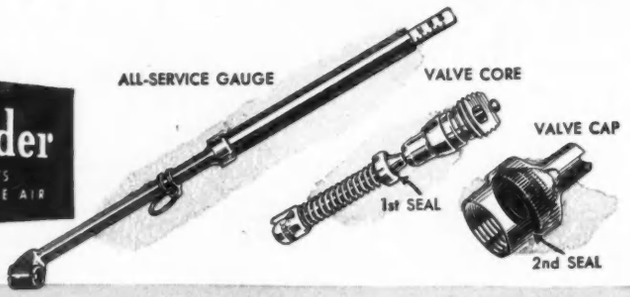
Make sure your tires are correctly inflated *at all times.* Check tire pressures regularly with a reliable Schrader Gauge. Then seal every valve *air-tight* with Schrader Caps, *guaranteed* to hold up to 250 lbs. pressure. Always replace worn or abused valve cores.

Fleet owners who make it standard practice to gauge tires on a regular schedule and use Schrader Caps and Cores on *all* their vehicles, know it pays off by keeping them rolling. See your regular supplier today for the Schrader Products you need.

*Send for free booklet "How To Prevent Roadside Flats"

SCHRADER CAPS, CORES AND GAUGES MAKE TIRES LAST LONGER!

Schrader
PRODUCTS CONTROL THE AIR



A. SCHRADER'S SON, Division of Scovill Manufacturing Company, Incorporated, BROOKLYN 17, N. Y.
World's Largest Manufacturer of Tire Valves Gauges and Accessories

by ***LEONARD WESTRATE***
CCJ Detroit News Editor

More Army Bids Coming

Although Army Ordnance is preparing to ask the truck industry for bids on military and civilian trucks the total involved will not make any appreciable inroads on the civilian supply. Previously, the armed services had been interested in 4-wheel drive ¾- and ¼-ton units and now has enlarged its request to include larger sizes up to 2½-tons. The latest request totals $10,854,000, but the total number of units involved is not large consisting of 235 units in the civilian category and an unspecified number of military vehicles, production of which would not materially affect commercial production. Army Ordnance also is not going to ask competitive bids on ¾-ton and ¼-ton 4-wheel drive military units, but it expects to get approval to negotiate contracts directly. Currently Dodge and Willys are the only two companies building this type of vehicle.

Uniform GVW in sight

The question of uniform practice by all truck manufacturers in putting gross vehicle weight rating plates on trucks is headed for early solution. The AMA truck committee has recommended that all members who have not yet done so adopt use of ratings by Jan. 1, and it is believed that all will comply. The fight over split ratings has been dragging on for many months but it now looks as though state vehicle administrators will settle that one too. Some manufacturers have plugged for split ratings to be filed with the state administrators for tax and licensing purposes, but it seems apparent that the states themselves will insist on a single GVW rating. The companies also are going to have to get together on a uniform basis for arriving at the GVW rating. Currently some manufacturers rate at most severe conditions expected, others at most ideal conditions, and some for average conditions. Many more states next year are expected to go to some form of GVW rating and will insist that a uniform basis of rating be used by all companies.

(TURN TO PAGE 152, PLEASE)

AT THE UNLOADING TERMINALS OF THE BIG FLEETS

GENERAL C. D. DELIVERS THE BIG LOADS

The new General C. D. . . . acclaimed as the sleek greyhound of the highways . . . is the one fleet operators choose to carry the *important* loads . . . the loads that must go through *fast* and *for sure.* Because of the extra thickness of the 100% natural rubber tread and the exceptional strength of the tire body, the C. D. is amazingly resistant to punctures; offers greater resistance to blowouts. Specify the General C. D. on new equipment; insist on it for replacement.

The GENERAL CD

THE GENERAL
TIRE & RUBBER COMPANY
Akron, Ohio

Detroit Dispatch

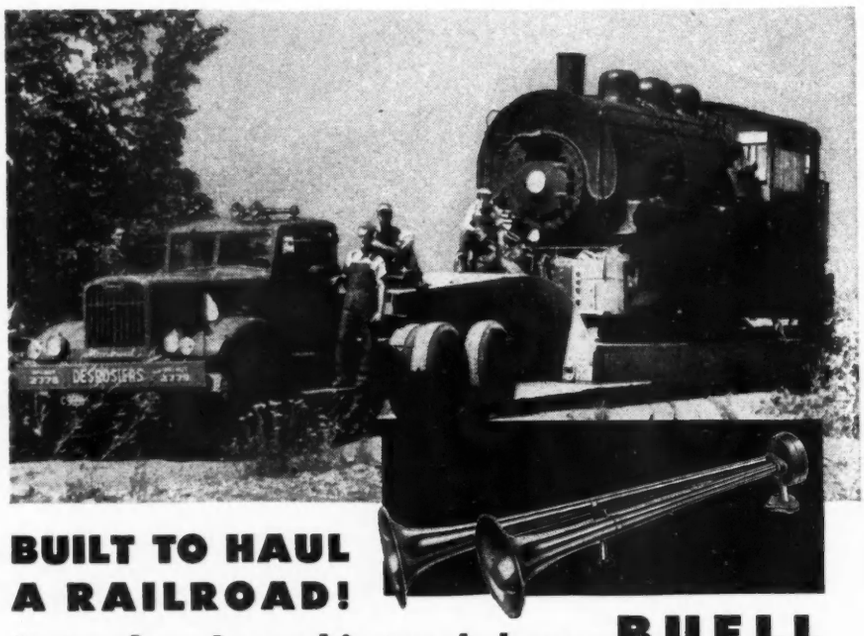
(CONTINUED FROM PAGE 150)

Maybe Another Price Round

Truck manufacturers are noncommittal about a further increase in truck prices, but with cost still on the upgrade and with the recent increases in steel prices one of them says that he would not be surprised to see an upward adjustment before too long. The truck market has held much steadier than had been expected early this year with the exception of the very large sizes and it is the opinion of one truck sales manager that increases may come in the smaller sizes which are still in good demand.

Used Car Prices Down

Reports received by the Federal Reserve Board on used car prices and sales indicate a slump of from $100 to $200 on late model cars since installment buying controls went into effect late in September. Sales have also dropped considerably. Prewar cars priced at $1000 or less, however, apparently have been affected very little by the installment buying curb.



BUILT TO HAUL A RAILROAD!

***But why does this truck have* BUELL AIR HORNS?**

Heavy haulers like Desrosier Cartage of Montreal, Canada, can't afford slowdowns once they start rolling. That's why air horns are a must for reaching out to clear the way. But why Buell Air Horns?

HERE'S THE REASON

All air horns *except* Buell Air Horns use a diaphragm to produce sound. Now a diaphragm must be adjusted to the pressure in your air brake system. This means you have a one volume signal; a time lag between pulling the control cord and producing a signal so the pressure can build up to operate the diaphragm; and you must make periodic adjustments to keep the horns within air brake pressure range.

But Buell Air Horns use an exclusive free-floating disc to give sound. This disc responds instantly at any pressure and never needs adjustment. *No danger of "down time" due to horn failures.* And you can give a soft, polite signal with as little as three pounds of air pressure! *Keep that public goodwill truckers have worked so hard to win.*

These are the reasons why manufacturers and truckers alike specify Buell Air Horns. These are the reasons why you should Put Your Trust in Buell Air Horns.

Write for descriptive literature, prices and fleet discounts.

BUELLS SPECIFIED BY GREYHOUND BUS CO. FOR 16 YEARS

BUELL MFG. CO., 913 W. 49th Place, Chicago 9, Ill.

More on Performance Ratings

Performance ability rating for trucks is fast getting into the area of legal regulation. The national committee on uniform traffic laws and ordinances has submitted a tentative draft of performance ability ratings to technical editors and others for comment. Such a rating could be incorporated into Act V of the Uniform Code. The suggested maximum is 375 lbs. of vehicle plus load, plus any other vehicle and load used in combination for each brake horsepower delivered to clutch or its equivalent as certified by the manufacturer. Another requirement would be that the unit have sufficient power for a speed of at least 25 miles per hour on a three per cent grade fully loaded. It is believed, however, that if and when performance ratings become a legal requirement the truck industry will strongly urge a rating based on the formula developed in 1939 by the SAE motor truck rating committee rather than on any arbitrary figure.

Insurance Minimum Standards

ATA is one of several sponsors of a 3-year study of factors in motor vehicle accidents. A recently organized truck insurance committee will set minimum equipment and safety standards for purposes of truck insurance. It is expected that insurance companies will review coverage to operators who do not meet the standards.

Bonded Lining Rumors

Evidence indicates that at least one of the Chyrlser divisions will introduce bonded brake linings on its 1949 models. An unconfirmed report says that the bonded linings will be used by all divisions. It is known that considerable work with necessary equipment for installing and replacing bonded brake lining is being done by Chrysler.

Nash & Hudson Trucks Delayed

Introduction of the new Nash truck still is several months away because of the steel shortage. The company, however, is using several of the trucks in its manufacturing operations and in addition is offering its dealers small trucks which they can use for service work. The company will supply the unit complete with hoist and other equipment. Hudson also is not expected to get into production on its pickup truck until well after the first of the year.

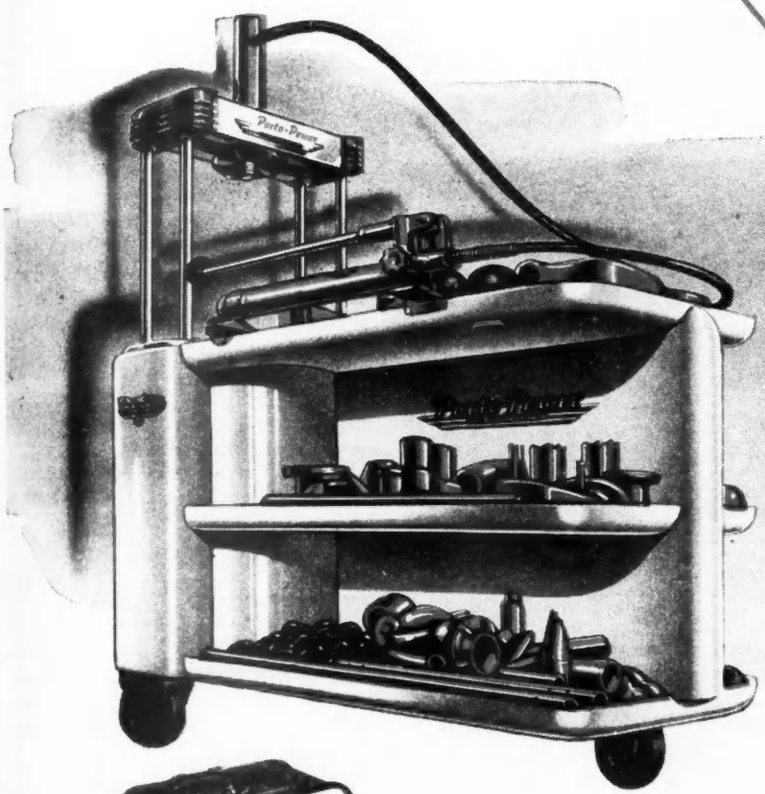
Tires Not Too Plentiful

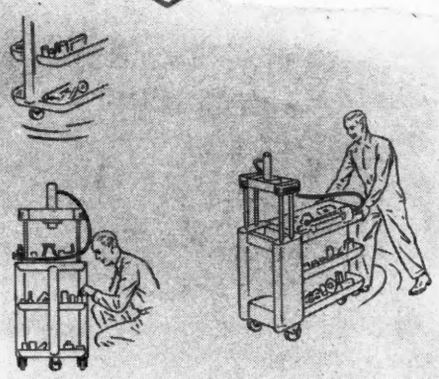
A report from Akron says that the army again is ordering sizable quantities of large truck tires. One order is said to have been for 100,000 casings. The tire men say that truck tires in the popular over-the-road sizes (9 inches, 10 inches, and 11 inches) are not too plentiful despite indications earlier this year that they might be a drug on the market. There are enough to go around, but inventories are low. Another unusual situation has been something of a pinch in the popular 6.00-16 size caused by changeover of moulds to manufacture of 15-inch-low pressure passenger car tires.

Plan now to own this Universal Shop Tool

THE HEART OF THE SHOP

Porto-Power* is Profit Power!





New Postwar Deluxe Porto-Power* with the portable pylon stand combines extra utility and startling beauty. Enlarged assortment—convenient, easily accessible shelves—swivel front caster—non-metallic wheels—white, chromium-trimmed stand for greater appearance-merchandising and an endless list of other outstanding features, create many new advantages for this famous all-purpose hydraulic shop tool.

* Trademark Reg. U. S. Pat. Off.

Bantam is a Bonanza, Too!

Bantam is back! This 2-ton Porto-Power speeds up 90% of all sheet metal work in body rebuilding — and does scores of other jobs, too. Bantam is loaded with new fool-proof features —and now also works with the famous "Wedgie".

*Reg. U. S. Pat. Off.

Mister, you're right when you say Porto-Power handles body rebuilding with *unequalled* profits. But listen, that's only *the beginning* of a long list of uses no other shop equipment can even touch! This hydraulic workshop on wheels, with its exclusive completeness, serves 1001 jobs throughout REPAIR WORK as well as in REBUILDING and RECONDITIONING! It pulls, pushes, bends, presses, straightens and clamps with tons of power. And there is double-barreled economy in Porto-Power, too. It eliminates the need for many special, costly tools—and saves scarce manpower. For delivery of this "miracle" tool, see your Blackhawk Jobber today.

A Product of **BLACKHAWK MFG. CO., Dept. P11118, MILWAUKEE 1, WISCONSIN**

There is only one Porto-Power*. . . and it is made by

BLACKHAWK

WITH THE MASTER OF FLAME ANSUL* FIRE EXTINGUISHING EQUIPMENT *REG. U.S. PAT. OFF.

DRY CHEMICAL FIRE EXTINGUISHERS

MORE FIRE-STOPPING POWER... FOR EVERY DOLLAR INVESTED

Ansul Dry Chemical Fire Extinguishers give you more protection... pound for pound... dollar for dollar... than any other extinguisher of comparable size. In addition... Ansul Fire Extinguishers provide the best first-aid protection:

- For fires involving gasoline or diesel fuel.
- For fires in electric wiring.
- For controlling cargo fires.

Ansul Fire Extinguishers have the highest established ratings for effectiveness on flammable liquid fires, based on tests by nationally recognized approval agencies. The longer range stream of dry chemical is effective in winds and drafts.

After use, Ansul Dry Chemical Fire Extinguishers can be recharged "on the spot"... providing continuing protection... and annual recharging of Ansul extinguishers is NOT necessary.

Safe to use... non-toxic, non-corrosive, non-abrasive.

Ansul Dry Chemical Fire Extinguishers are preferred fire protection on many of the nation's leading fleet operators.

Ask for your copy of file No. 202. You will receive factual data on how Ansul Dry Fire Chemical Extinguishers will cut your fire protection costs.

Listed and approved by Underwriters' Laboratories and Factory Mutual Laboratories.

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN

Fleetman's Library

SPORTSMANLIKE DRIVING, second edition, a 455-page textbook designed to instruct students in safe and competent methods of handling a motor vehicle. Published by American Automobile Assn., Washington, D. C.

CHEXALL ACCESSORY MANUAL, the 9th edition, containing 366 pages of information needed to establish and maintain tire, battery, accessory, parts and tune-up service. The Chek-Chart Corp., Chicago, Ill.

ARO LUBE EQUIPMENT, a 48-page catalog describing the complete line of Aro lubricating equipment and accessories for automotive service. Aro Equipment Corp., Bryan, Ohio.

RADIATOR REPAIR REFERENCE, a loose-leaf binder illustrating and describing tools and materials for repairing radiators. The Inland Mfg. Co., Omaha, Neb.

DRILL PRESS CATALOG, No. 400, illustrating and describing bench and floor models of the 14-in. drill press, along with motors, controls, spindles and other drill press accessories. South Bend Lathe Works, South Bend, Ind.

RABAT BATTERY CATALOG, listing the complete line of Reading batteries, including all sizes for normal, heavy and heavy-duty service. Reading Batteries, Inc., Reading, Pa.

MACHINE TOOL CATALOG, G-48, describing, illustrating and listing specifications of the Sheldon and Sheldon-Vernon machine tools, accessories and attachments. Sheldon Machine Co., Chicago, Ill.

RINGLINER CATALOG, showing the complete line of Moog X-Plus piston rings, the Expan and the Unitrol lines. Moog Industries, Inc., St. Louis, Mo.

LOW HEAT WELDING BULLETIN, an 8-page publication announcing the latest improvements in low heat welding alloys manufactured by Eutectic Welding Alloys Corp., New York, N. Y.

METALLIZING EQUIPMENT CATALOG, listing the complete line of metallizing equipment and supplies. The Metallizing Engineering Co., Inc., Long Island City, N. Y.

METCO NEWS, a periodical publication providing information on methods and techniques of metallizing. Metallizing Engineering Co., Inc., Long Island City, N. Y.

TOOL CATALOG, 12-D, listing all sizes of lathes, drill presses, bench presses, etc., including chucks, tools and accessories available from South Bend Lathe Works, South Bend, Ind.

TRAFFIC CONTROL DEVICES, a new edition of the manual on Uniform Traffic Control Devices for Streets and Highways. This is the generally recognized official national standard covering highway signs, pavement markings, traffic signals, islands and similar devices used in the guidance, warning and regulation of traffic. Published by the Public Roads Administration, Federal Works Agency, Government Printing Office, Washington, D. C. Price, 50 cents per copy.

INTRODUCING...

...JOHN E. JOHNSON, as general truck sales manager, GMC Truck & Coach Division of General Motors.

...CHARLES D. ALLEN, district manager for the Autocar Co., in New Haven, Conn., transferred to the district managership at the company's Boston branch.

...L. G. WHEELER, manager of Trailmobile Co. branch at Erie, Penna., named Cleveland branch manager.

...RUFUS AUSTIN, assistant sales manager of the sale of original equipment, Perfect Circle Corp., transferred to the Detroit office in the General Motors Building.

...CLARENCE C. VAUGHAN, formerly district manager of International Harvester Co., at Dallas, Tex., transferred to Nashville, Tenn., in the same capacity.

...JOHN F. ADAMS, formerly district manager of International Harvester Co., Nashville, Tenn., appointed assistant central region manager.

...R. D. HILTY, as general sales manager of Reo Motors, Inc., succeeding Don C. STREETER, resigned.

...JOHN C. HINES, new general sales manager of AC Spark Plug division of General Motors.

...GORDON A. WELLER, appointed assistant manager of Replacement Sales, and FRANK A. COLOSIMO, appointed chief service engineer of the American Brakeblok Division of the American Brake Shoe Co.

ROY B. BENDER, as general service manager of The Studebaker Corp. Bender succeeds D. O. WILSON whose recent resignation followed 36 years with Studebaker.

...GEORGE A. ROBERTSON, as general sales manager, Visilite Distributors, Saginaw, Mich.

...C. M. HARRINGTON, formerly assistant sales manager of the Anderson Co., appointed sales manager of Linmar Products Corp., Chicago.

...DON M. TATEM, appointed manager of the Kansas City district, succeeding W. A. Olson, the B. F. Goodrich Co. CHARLES S. MILLIKEN, named manager of the Birmingham district, succeeding Tatem.

...LANSING T. CARPENTER, appointed director of advertising and public relations for The Russell Mfg. Co., Middletown, Conn.

...G. WM. THIBAULT, new general manager in charge of sales and production, the Loney Co., Detroit.

...H. R. BUTTS, appointed general sales manager, Wire Division, of The Electric Auto-Lite Co. MAX H. SMITH, national sales supervisor, will replace Mr. Butts as

(TURN TO NEXT PAGE, PLEASE)

Whether you operate heavy or light equipment, on long or short hauls, on mountain roads or in city traffic — the extra performance of GATKE *CUSTOM-BILT* Brake Blocks offers important advantages —

The smooth, non-grabbing action adds countless miles to tire life, with reduced strain on drivers and equipment.

Dependable holding power at all service temperatures gives wider SAFETY margins.

The long wear life means extra miles between adjustments — keeps equipment fit for the road with less maintenance expense.

COMPARISON PROVES: Use GATKE *CUSTOM-BILT* Brake Blocks for your next five relines and compare results.

Ask your GATKE Jobber or write.

GATKE
Custom-Bilt
BRAKE BLOCKS AND LINERS
for Trucks — Tractors Trailers — Buses and all other equipment

Gatke CUSTOM-BILT BRAKE LININGS
BLOCKS SETS ROLLS SHEETS
GATKE CORPORATION
248 N. La Salle St., Chicago 1, Ill.

INTRODUCING . . .

(CONTINUED FROM PAGE 157)

Southern Division Manager, and FRED VANZO, central division district supervisor, has been brought from Chicago to replace Mr. Smith in Toledo.

. . . JACK R. KOSKE, appointed to the board of regional sales supervisors, Eutectic Welding Alloys Corp.

. . . PAUL E. MILLER, appointed to the board of regional sales supervisors Eutectic Welding Alloys Corp.

. . . EDMUND J. HOGAN, as general sales manager of the West Coast Division of Willys-Overland Motors.

. . . GEORGE W. PONTIUS, appointed manager of the Automotive Engineering at the Bendix Products division, South Bend plant of Bendix Aviation Corp.

. . . R. L. LAUFFER, as territory salesman for the Northwest District for Pennsylvania Rubber Co., Jeannette, Pa.

. . . J. A. FOUCHE, new manager of the Diversified Products Sales department of Seiberling Rubber Co.

. . . FRANK M. CHANDLER, named traffic director of Truck Owners Association of California succeeding T. J. CHAMPION, who has resigned.

Handy!
1 UNITED ASSORTMENT CONTAINS . . .
42 BRAKE KITS THAT SUPPLY . . .
196 PARTS THAT SERVICE 95% OF ALL CARS!
Quick service from your nearby NAPA Jobber!
UNITED PARTS MFG. CO., 1250 W. Van Buren St., Chicago 7
UNITED
HYDRAULIC BRAKE PARTS • BRAKE CABLES
SPEEDOMETER CABLES • FUEL PUMP PARTS

. . . R. G. GREER, formerly assistant central region manager, International Harvester Co., appointed manager of the western region with headquarters at Oakland, Cal.

. . . FRANK T. CORCORAN, named Cleveland regional manager of The Studebaker Corp.

. . . GEORGE W. WOLFF promoted to the position of assistant sales manager of the Willard Storage Battery Co.

. . . A. L. BLACKWELL, formerly Cleveland district sales representative, promoted to national service manager, Willard Storage Battery Co.

. . . L. G. DEMOTTE, promoted to the position of southeastern district sales manager for the Willard Storage Battery Co., in Atlanta.

. . . J. O. YOUNG, as assistant sales manager for The Trailmobile Co., Cincinnati, Ohio.

. . . WALTER C. TRAUTMAN, appointed chief engineer of Racine Operations of Walker Mfg. Co., Racine, Wis.

. . . M. P. WINTHER, appointed vice president and director of engineering of the Eaton Mfg. Co.

JULY ILLUSTRATION

A photograph and description captioned "Drivers' Uniforms," used in the July issue, page 170, failed to give credit to *Look* magazine for use of the illustration.

Here's Why MICHIGAN MOTOR FREIGHT LINES Has Standardized on Pittsburgh SPEED RACK

For Open Top Trailers and Trucks

Read what J. Hendrickson, Superintendent of Equipment, says in a recent letter:

"We first installed your Pittsburgh Speed-Rack in May, 1946 and in view of the complete satisfaction we experienced, we have gone on with installation of these innovations on 16 additional units and now plan to make this standard equipment on all new open top trailers as they are brought into operation.

"Among the most important features of these Speed-Racks, are:

"1. The all important labor saving results. One man may easily untarp a trailer in a matter of minutes.

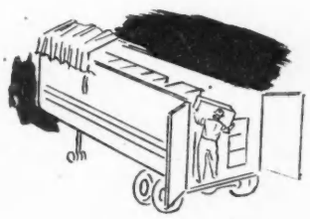
"2. Tarp repair and replacement costs have been sharply reduced because of the engineered manner in which it rolls and unrolls the tarp.

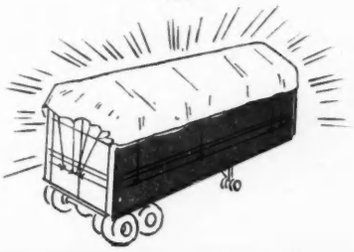
"3. Customers relations are at a new high as a result of our drivers ability to quickly tarp a trailer after loading, allowing the dock employees to use their precious facilities for the loading of another unit.

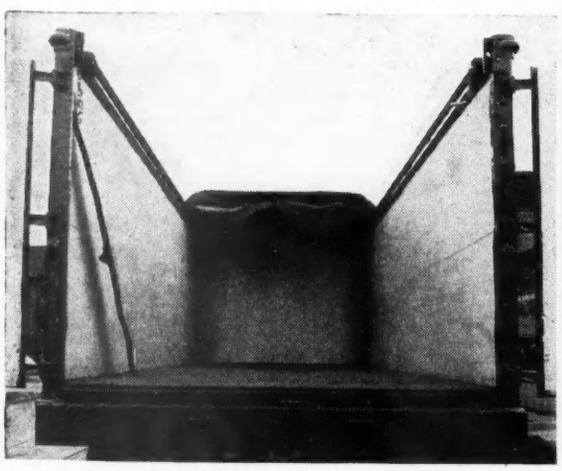
"4. Claims are at a minimum because of our ability to quickly cover a load in an emergency, the decrease in tears, etc., and the drivers willingness to cover a load properly.

"5. Appearance of our trailers, a definite asset, has improved tremendously, enabling us to match our equipment with any first class carrier.

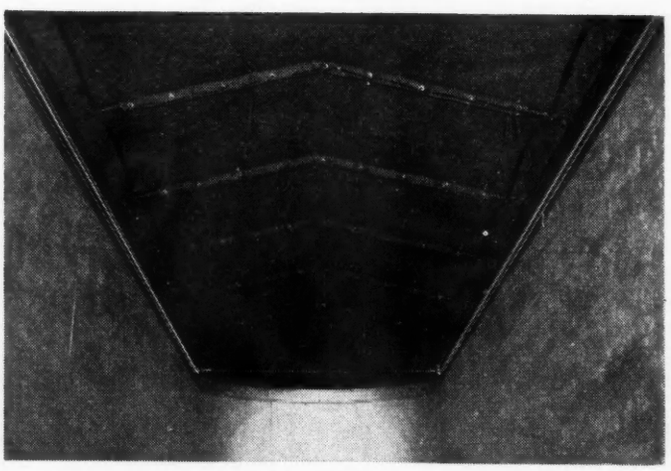
"It is a real pleasure to write to you in this manner and we know you will continue to enjoy increasing success with this advancement for the motor-freight industry."







With the SPEED-RACK rolled back, note the ample room for loading and unloading—yet the tarpaulin stays intact. Pittsburgh SPEED-RACKS are custom-made to fit all specifications and requirements.



Looking at the SPEED-RACK from the interior of the trailer, note the engineered precision in spacing of bows—they fold and unfold accordian-like without dragging or slipping.

For further information see your local truck or trailer dealer.

Pittsburgh Steel Products Company

Subsidiary of Pittsburgh Steel Company

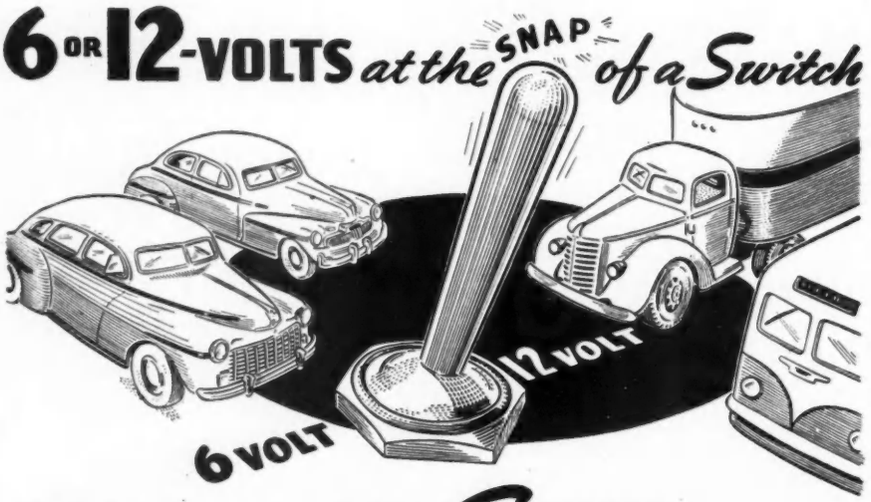
500 Grant Building, Pittsburgh 19, Pa.

TRUCK Show . . (Continued from Page 40)

LINN

Linn Speed Vans featuring low floor level and front-wheel drive are offered in four sizes ranging from 9000 to 12,500 lb gvw. They are powered by two sizes of Hercules six-cylinder engines, and the entire power unit (engine transmission and axle assembly) can be removed in 20 min. Body and chassis are of integral construction. First model: 1938.

6 OR 12-VOLTS at the SNAP of a Switch



MARQUETTE
REGISTERED U.S. PAT. OFFICE

100 AMPERE Supercharger And TESTER

Marquette Hi-Rate "188" Supercharger enables you to give "Hi-Rate" 100 ampere battery service to any car or truck on the road. At the snap of a switch, the entire testing and charging circuit is converted from 6 to 12-volts. Keeps batteries in top flight condition *without* removing from car, truck or bus.

HI-RATE "188" FEATURES

- Tests *Before* Charge
- 30 Second Test
- Shows *Exact* Charging Time
- Dual Selenium Rectifiers
- Dual Heavy-Duty Transformers
- Full 100 Ampere Charging Rate
- 6 or 12-volts at snap of a switch
- New type Circuit Breaker projects both Battery and Charger
- High Rate Discharge for Desulphating

SOLD EXCLUSIVELY THRU THE NATION'S LEADING DISTRIBUTORS

MARQUETTE
REGISTERED U.S. PAT. OFFICE

Charging EQUIPMENT
HI-RATE "180" PORTO-FAST
TRICKLE-MATIC WALL CHARGERS

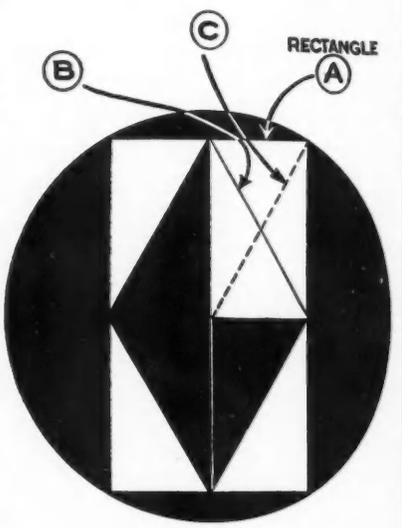
MARQUETTE MFG. CO., INC., Minneapolis 14, Minn.

Answers to Time Out for Play

(See Page 148)

Simple Logic

THREE INCHES because: each white section is obviously half of a smaller rectangle (A) of which one of the sides of the diamond serves as a diagonal or hypotenuse (B). The other diagonal of this smaller rectangle must run from the center of the circle to the corner of the large rectangle (C). Since these diagonals are equal and the second one is a radius or half the diameter of the circle, the side of the diamond must be 3 inches.



HAULS into MONEY

HAULS
HA*L*LS
*M*ALLS
M*O*LLS
MOL*E*S
MO*S*ES
MOSE*Y*
MO*N*EY

Found in Payloads

1. SOAP
2. PADS
3. SALAD
4. SAP
5. SODA
6. SLOP
7. PODS
8. PLAYS

CUT COSTS

With

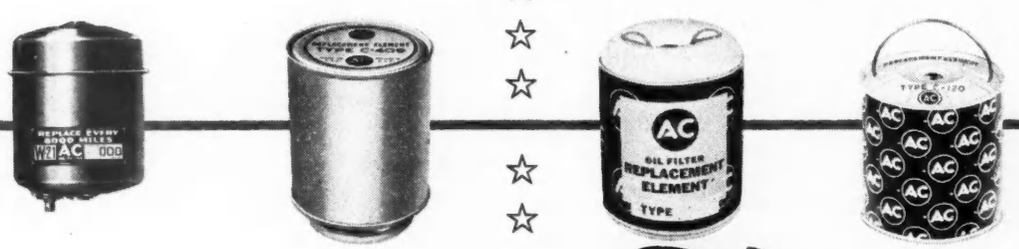
AC "FIVE-STAR QUALITY" OIL FILTER ELEMENTS

Your oil filters can be no better than their filtering elements. When *those* give you *maximum* efficiency, your engine oil goes farther, ring slots stay clean longer, valve guides don't gum so quickly, and engine wear is slowed down.

AC's "Five-Star Quality" Oil Filter Elements are carefully engineered, and precision built, to give you exactly that superior filtration. Years of "know-how," and millions of miles of hauling service, are behind them. They make *any* filter a better filter—with regular or detergent oils.

Why not let them prove what they can save you.

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

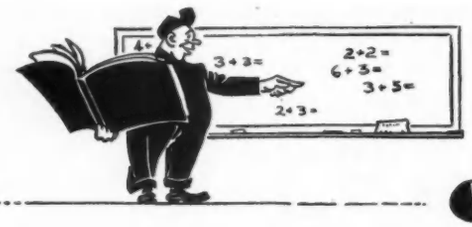


AC "FIVE-STAR QUALITY" OIL FILTERS

for engines not equipped

You can put AC "Five-Star Quality" on *all* your vehicles. AC builds "job-engineered" filter installations for engines up to 40 quarts crankcase capacity, 1800 cu. in. displacement, and 200 horsepower.

Check with your AC supplier



CCJ QUIZ

by G. W. BAHL

(Answers on Page 164)

"Fifty candles glowing on our Jubilee Cake for the American Motor Truck. Try to blow them all out by answering the following. Each correct date inserted puts out 5 candles. 70 extinguished is only a breeze; 80 a little more wind power; 90 is hurricane warning and 100 should bring true all wishes."

1

Rolling along today's highways on modern tires is like floating on a cloud compared with the old days of riding on solid tires and the dual sectional blocks. How long ago was the first really successful rubber tire patented?

1896 ( )
1906 ( )
1916 ( )

2

Pick up a newspaper and read the following ad: 1½-ton Load Carrying Wagon, chain driven with 4-cyl. engine having 4⅛-in. bore and 5½-in. stroke, magneto ignition, 16-in. leather faced cone clutch, 3-speed transmission, floating jackshaft and governed speed of 15 mph. Frame of 4½-in. pressed steel, total chassis weight of 3850 lb., pneumatic tires in front and solid rubber aft. Price at factory $1800.00. The year is:

1900 ( )
1910 ( )
1920 ( )

3

Safety glass on the highway juggernauts is taken for granted yet drivers were not always fortunate in having its comforting protection and clear vision. Shatter-proof glass was universally adopted over plate glass in:

1915 ( )
1925 ( )
1935 ( )

4

The U. S. Army Signal Corps makes the first Federal Government purchase of commercial vehicles, ordering 3 auto delivery wagons. The War Department hedged criticism of the purchase by saying "Each (truck) is equipped so that a mule can be hitched to it if it refuses to run." The year is:

1899 ( )
1904 ( )
1909 ( )

5

Motor buses replace trolleys on Madison Avenue, New York's oldest street car line. The year is:

1925 ( )
1930 ( )
1935 ( )

(TURN TO PAGE 164, PLEASE)

THE SEAL OF APPROVAL

Approved by those who know good gaskets.

For more than forty years, Fitzgerald gaskets have sealed in motive power dependably on countless motors and have satisfied millions of users.

See Your Fitzgerald Jobber.

THE FITZGERALD MFG. CO., TORRINGTON, CONN.

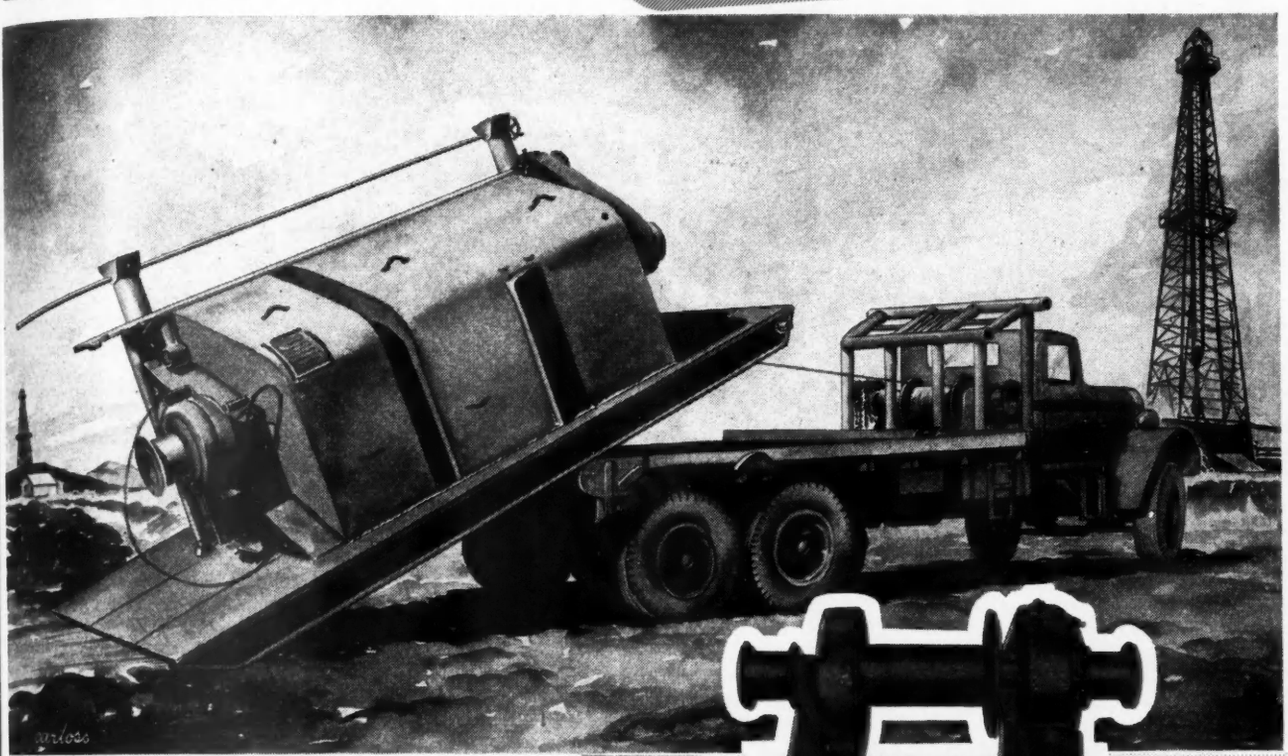
Branches at Chicago and Los Angeles
Canadian FITZGERALD Limited, Toronto

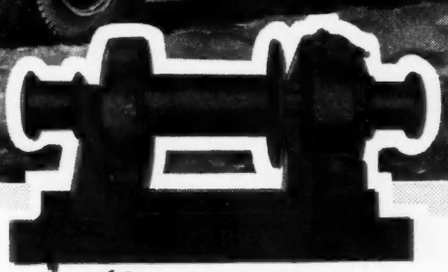
Fitzgerald
GASKETS

GASKET CRAFTSMEN SINCE 1906

the name BRADEN means . . .

SAFETY ECONOMY DEPENDABILITY





JOB DEPENDABILITY . . . plus SAFETY and ECONOMY of operation. You'll find all three in the NEW line of BRADEN "M" Series Winches. And, you'll find a BRADEN Winch for handling any job from 6,000 to 100,000 pounds capacity. Ask your nearest BRADEN Distributor for complete details.

THE *New* MODEL M50-20B

The truck winch with the greatest capacity ever built on a standard production basis. Safe working load: 100,000 pounds. The NEW BRADEN OIL-COOLED, FULLY ADJUSTABLE, AUTOMATIC SAFETY BRAKE is standard equipment.

BUY BRADEN -- *They are Safer*

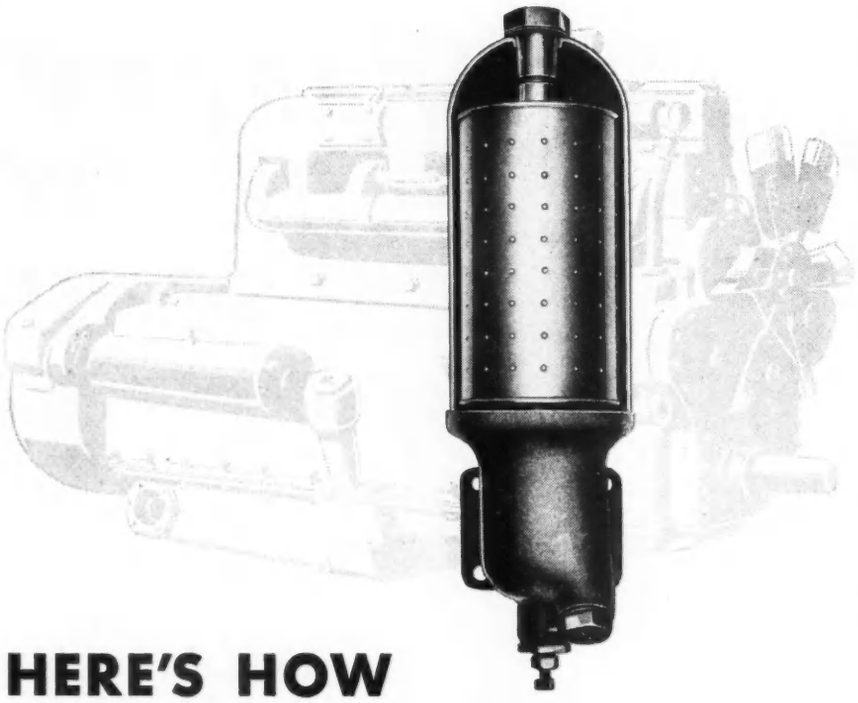
BRADEN WINCH COMPANY

1001 East Admiral Boulevard

BRADEN *Winches*

IN SERVICE AROUND THE WORLD

TULSA 3, Oklahoma



HERE'S HOW To Make Motor Oils Work Longer For You

There is no doubt that we in the U.S. carelessly use much more lubricating oil than is necessary—and therefore contribute to the overall oil shortage.

REDUCE CONSUMPTION AND COSTS 40%

There is a simple method of reducing oil consumption, eliminating needless waste and at the same time cutting operating costs of motor vehicles.

INSTALL GOOD OIL FILTERS

Oil is kept clean for much longer use. Oil changes will be needed less frequently. Besides you get better engine performance and eliminate premature wear, part replacements, and repair expense.

Install MICHIANA Filters,—selected by America's leading engine engineers and operators of fleets where exact records reveal the advantages of MICHIANA.

Write now for Oil Filter data. MICHIANA Filters are made for all types and sizes of internal combustion engines.

MICHIANA PRODUCTS CORPORATION
Michigan City, Indiana

MICHIANA OIL FILTERS

Request your copy of latest illustrated Bulletin 839 today.

CCJ Quiz

(CONTINUED FROM PAGE 162)

6

Well known investment counselors warn the nation that the automobile industry is fast becoming over-expanded. The annual production was 22,000 vehicles. The year is:

1899 ( )
1904 ( )
1909 ( )

7

Standard now, the following were definitely innovations when first introduced:

a) left-handed steering
b) silent timing
c) magnetic speedometers
d) helical gears

The year is:

1903 ( )
1908 ( )
1913 ( )

8

Commercial vehicles are displayed for the first time at the National Automobile Show in New York. The year is:

1900 ( )
1905 ( )
1910 ( )

9

An eminent economist made the following statement: "With horses selling from $25 to $50 there is no reason for a much greater sale of trucks and tractors. The year is:

1911 ( )
1916 ( )
1921 ( )

10

We'll give you two hints on the last question and then let you insert the correct answer for item "C".

a) Truck registrations total 10,000. The year is 1910.

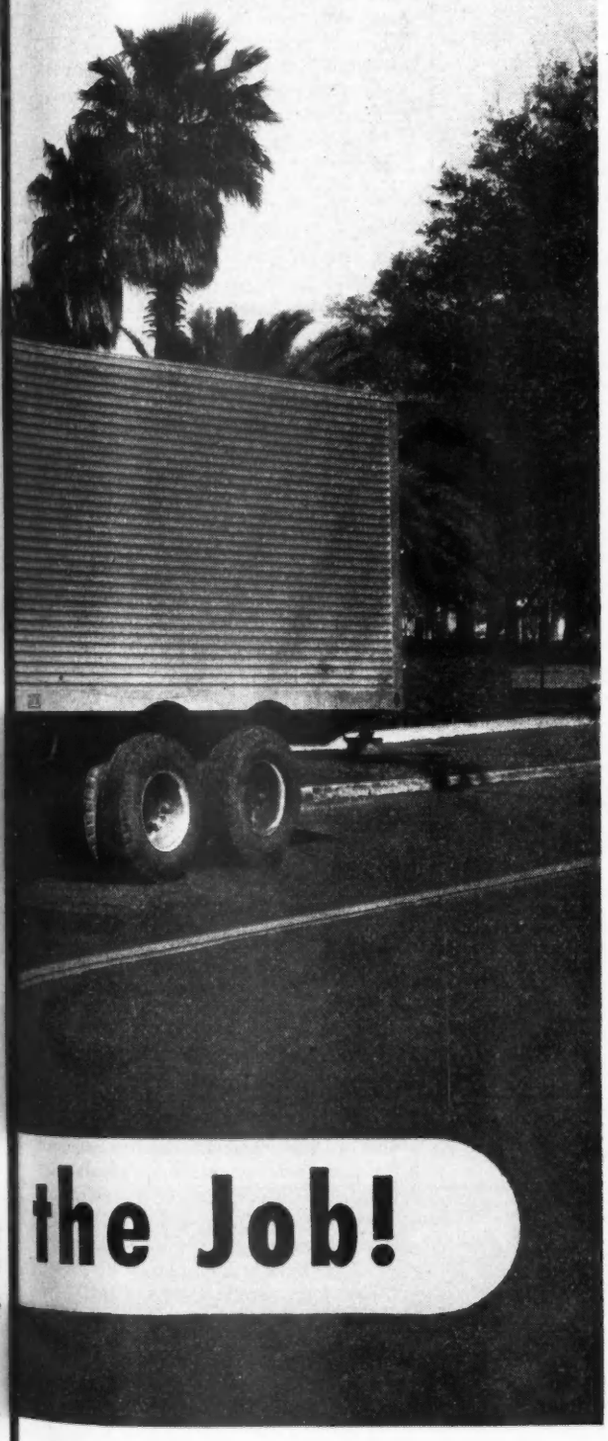
b) Truck registrations pass 1,000,000. The year is 1917.

c) Truck registrations pass 2,000,000. The year is .....

ANSWERS

1. 1896
2. 1910
3. 1935
4. 1899
5. 1935
6. 1904
7. 1908
8. 1900
9. 1921
10. 1924

in Service with TENOL



..the Heavy Duty Oil for Heavy Duty Engines

Sinclair TENOL is a heavy duty oil made specially for diesel engine service. It has high oxidation stability—the formation of acidic compounds and resultant gum and varnish is largely eliminated.

Furthermore, TENOL'S detergent and dispersion properties hold possible contamination by carbon and sludge in suspension until drained off in the oil. Selected additive agents protect sensitive alloy bearings against corrosion, and restrict foaming.

Because a clean engine means free rings and pistons and no excessive sludge accumulation, the time between tear-downs is increased—cost per operating hour decreased.

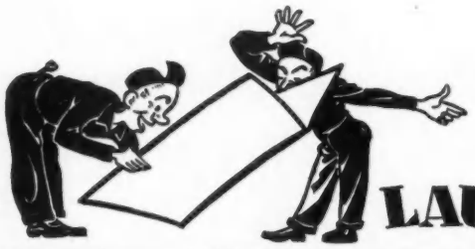
To keep your diesels in steady service, use TENOL for sure, safe engine lubrication.

the Job!

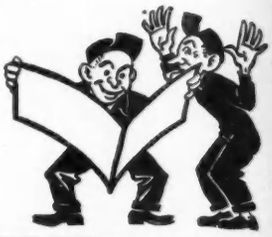
SINCLAIR

HEAVY DUTY LUBRICANTS

YOUR NEAREST SINCLAIR AGENT WILL GLADLY ARRANGE FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.



LAUGH IT OFF



Advice to farm girls: When the traveling salesman chases you, run into the silo. He can't corner you there.

Weavin' Willie, our city delivery driver, says: It ain't tyin' himself to one woman that a man dreads when he thinks of marryin'—It's separatin' himself from all the others.

CCJ

A truck driver, on his route through Tennessee, had the opportunity to eat a meal with a mountaineer and his family. When he asked for cream in his coffee, he was told that they hadn't had any milk since their dog died last summer. The truck driver was startled.

"A good dog," the mountaineer added. "He brought in the cows!"

CCJ

SUE: "I LIKE THIS SUMMER RESORT. ALL THE MEN ARE SO FULL OF PASSION."

LOU: "PASSION, THE DICKENS! THIS IS A HEALTH RESORT FOR ASTHMA VICTIMS."

CCJ

The president of Fleety-Fleet Motor Express called in eight of his department heads for a confidential discussion. "I understand," he said, "that all of you have been dating Miss Jones, the receptionist. I want the truth now. How many of you have been taking her out?"

Seven of the execs raised their hands and looked sheepish. The big boss glared at the eighth man and intoned: "Are you SURE that you are telling the truth?"

"Yes, I am," was the reply.

"All right then," came the punchline, "You fire her."

CCJ

Wife: "Dear, it's just a year since our honeymoon, when we spent that glorious day on the sand."

Mechanic: "Yes, and we little thought then we'd be spending our first anniversary on the rocks."

CCJ

Slim: "Your uncle is always drunk. I'd think he'd get run over by a truck crossing the streets in his condition."

Jim: "Oh, he'll never get run over. He always carries a box marked DYNAMITE and no one ever hits him."

CCJ

One of the efficiency experts employed by a prominent semi-trailer manufacturer was complaining about the inconvenience of a mole on the back of his neck. "If it gets any bigger," he told one of his associates, "I'll have to buy a straw hat for it."

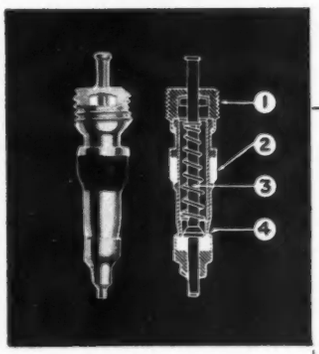
"Why don't you have it removed?" the co-worker suggested.

"Removed!" exclaimed the efficiency man. "How do I know I don't think with it?"

(TURN TO PAGE 172, PLEASE)

STANDARD OF THE TIRE INDUSTRY

FOR THE BETTER TIRE SERVICE

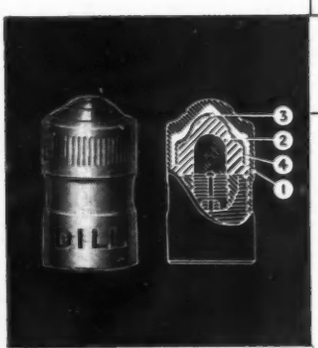


DILL *Super Seal* VALVE INSIDES

Inflate Faster — Hold Air Longer

The Dill valve inside is recognized everywhere, by tire manufacturers, dealers and car owners alike, as the valve inside with extra advantages. Fits all types and sizes of tire valves.

1. Sturdy swivel with bridge guides plunger to maintain lower cup washer in perfect alignment with barrel for positive seal.
2. Gasket vulcanized to barrel gives positive seal with valve stem seat.
3. Stainless steel spring, fully enclosed and protected, assures free action in opening and closing lower cup washer seal for inflation and pressure testing.
4. Adequate air passage for fast inflation. Air flow over washer keeps sealing surface clean.



DILL *Super Seal* VALVE CAPS

Keep Valves Securely Airtight

No air can escape from a Dill "Cap Sealed" valve. No dirt can enter to harm the valve inside. The swivel gasket seal provides the positive airtight security so vital to maximum tire life and safety.

1. Super Seal Cap metal body.
2. Floating Safety Seal within cap securely locks valve mouth airtight.
3. Brass Swivel Safety Seal Retainer allows seal to seat without turning and injuring the seal as cap is screwed onto valve stem.
4. Brass Swivel Retainer prevents distortion of rubber seal from pressure on valve stem mouth. Maintains seal positively leakproof.

ALWAYS SPECIFY AND USE—

WRITE, today, for complete catalog of Dill Valves, Parts and Accessories.

THE DILL MANUFACTURING CO.
700 East 82nd St., Cleveland 8, Ohio
Los Angeles Branch 1011 S. Flower St.

DILL
REG. U. S. PAT. OFF.
TIRE VALVE PRODUCTS

Your NAPA Jobber is a Good Man to Know!

Nowhere is such fast, complete service available on such a broad range of first-quality parts . . . as from your NAPA Jobber. He can supply you promptly with parts for all cars and trucks—of all makes and ages. From his own stocks, he can give you practically any part you normally would need—at any time. Rarely needed numbers, which no jobber can afford to stock, he can get for you—overnight or quicker—from his nearby NAPA Warehouse. Call your NAPA Jobber.

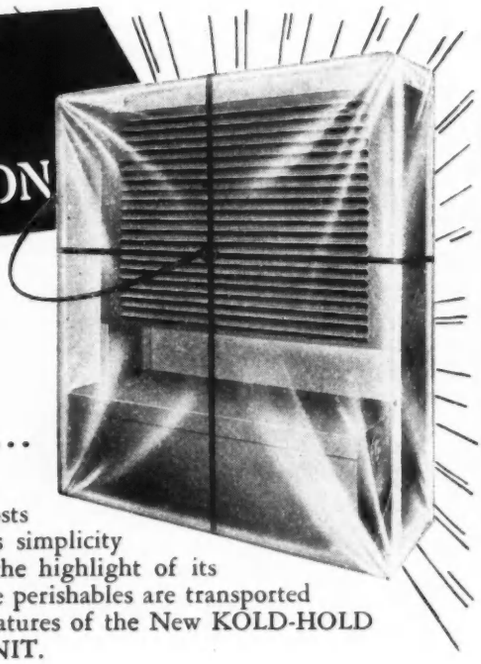
NAPA *is the largest Independent Parts Organization in the Industry!*

N·A·P·A
National Automotive Parts Association
Assurance of Quality

American Brakeblok · Allied · Wisconsin Pistons · Sleeves · United Parts · Fuel Pump · Hydraulic Brake · Speedometer and Brake Cables · Monmouth Engine Bearings · Clutch Plates & Parts · Chassis Parts · Trico Vacuum Operated Safety Products · Allied Grapho Water Pumps · Parts · Packing · Brown Lipe Gear Boxes · Balkamp · Zollner Piston Equipment · Buffalo Mufflers · MicroTest Gears · Axle Shafts · Allied A.P.C. Valves · Standard Grease Retainers · Detroit Universal Joints · Celoron Timing Gears · Buffalo Fire Extinguishers · Allied Raymond Valve Springs · Briggs Shock Absorbers · Echlin Ignition Parts · Allied Precision Piston Pins · Duckworth Timing Chains · Spicer · Dittmer Transmission Gears · Martin-Senour Automotive Finishes · Belden Wire and Cable · New Britain Hand Tools · Federal Ball Bearings

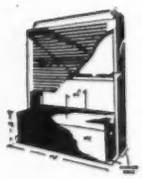
"Please, friend, the way ahead is clear! Do pass!"

Pakaged REFRIGERATION



The NEW KOLD HOLD *Pakage* TRUCK UNIT for HIGH TEMPERATURE REFRIGERATION of PERISHABLES . . .

The New Kold-Hold Pakage Refrigeration Unit means lower costs . . . added dividends to you. Its simplicity of installation and operation is the highlight of its success wherever high temperature perishables are transported by truck. Check the following features of the New KOLD-HOLD PAKAGE REFRIGERATION UNIT.



Self-contained, adjustable to almost any truck. The Unit can be lowered to 46¾" for installing through truck door. When installed, height can be adjusted for 57" minimum to 78" maximum heights.

The electrically driven compressor builds up a charge of flint ice in the "Hold - Over" Plates, which provides ample refrigeration over a day's run.

Operates efficiently, economically in any properly insulated truck, regardless of age.

Easily installed — simply cut intake and discharge holes, push into place, plug into any 110AC-60 Cycle Circuit*.

Maintains inside truck temperatures of 45° F. to 50° F. over a full day's run.

Provides ample refrigeration even in extreme weather conditions.

The 1 HP Compressor operates for a few cents a day.

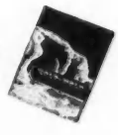
Recharging plates at any electrical outlet protects loads on long runs.

Dry and odorless — no bother. Dependability at lower cost.

Kold-Hold "Hold Over" Refrigeration Plates such as used in this unit have given satisfactory service for over 15 years.

*A 220V-60 Cycle Single Phase motor can be supplied on request.

Write for Complete Catalog Today



KOLD-HOLD protects every step of the way

PRODUCTION · TRANSPORTATION · STORAGE

Jobbers in Principal Cities

KOLD-HOLD MANUFACTURING CO., 620 E Hazel St., Lansing 4, Michigan

Laugh

(CONTINUED FROM PAGE 168)

The Maintenance Superintendent rushed through his dinner and taking his small son in tow, drove back to the company garage to observe his second-shift operation. Fascinated by all the activity in the shop, the lad was given permission to stroll through the various departments and watch the mechanics at work. Very shortly the lad watched the shop foreman step over to a wall telephone and ring the parts department for replacement materials. Due to excessive noise the foreman was having difficulty in making himself heard. After listening in on the conversation for a moment, the boy went racing back to his father and squealed: "Daddy, daddy, come out here! There's a man on a phone calling heaven!"

"What makes you think so?" asked the Maintenance Supt.

"Because he hollered 'Hello, Hello! —Good Lord, can't you hear?'"

CCJ

Before leaving his office to go out to lunch, the Freight Claim Agent, who was building a new home at the outskirts of town, sent a painter to find out when the interior decorating could be started. Returning from lunch, he found a note on his desk reading, "On account of Joe and Fredd was, your house ain't plastered yet . . . Sam."

CCJ

Mary had a lovely calf—
She showed it very well;
There were women on the jury—
Now our Mary's in a cell.

CCJ

Rate Clerk: "I know a man who has been married forty years and spends every evening at home."

Switchboard Operator: "That's what I call true love."

Rate Clerk: "The doctor calls it paralysis."

CCJ

Mamma passed her driver's test,
Mamma's feeling regal;
She can dent a fender now,
And every thing is legal.

CCJ

Tony (talking on phone to garageman): "I want you to come and fees my car—she no go."

Garageman: "What seems to be the trouble?"

Tony: "I dunno—but the battery, she no bat. The spark plugs, da no spark. The generator, she no gin. The pistons—dey no work either."

CCJ

The tank fleet operator, a widower, noticed that his son seemed rather interested in his pretty secretary. He determined to speak to the girl, but before he got around to it she announced that the son had proposed and she had accepted him. "Well," said the trucker, "I think you might have seen me first." "I did," his secretary replied, "but I preferred your son."

Resume work

LEGISLATIVE OUTLOOK FOR 1949

(Continued from Page 102)

reported to the Secretary of State.

9—Uniform traffic laws.

10—Long-range road plan based upon Griffenhagen Report.

11—Abolishment of township road work.

12—Anti-diversion constitutional amendment.

13—Amendment of sizes and weights to conform to recommendations of AASHO.

Increased Fees in Indiana

In INDIANA, the following subjects are expected to be placed before the legislators for consideration:

1—Increase in motor fuel taxes and truck and bus registration fees.

2—Imposition of a motor vehicle excise tax in lieu of present property taxes.

3—Permit cities to tax motor vehicles.

4—Recoup the $14 million diverted in the past.

5—Anti-diversion constitutional amendment.

6—Redistribution of road funds.

7—Repeal motor vehicle property tax and increase registration fees.

8—Appropriations for roads from the General Fund.

9—Amendment of bus and truck utility tax act.

10—Proposed 60 mile speed limit.

11—Periodic motor vehicle inspection.

12—Uniform traffic laws.

13—Increased truck sizes and weights.

14—Establish Interim Highway Study Commission.

15—Increase number of highway patrolmen.

. . . and in Michigan

Some issues that the MICHIGAN legislature will consider are:

1—Increase of motor fuel tax.

2—Increase of registration fees for all vehicles.

3—Reclassification of roads and streets.

4—New distribution formula for highway funds.

5—Improvements in highway administration.

6—Additional funds for local roads.

7—Proposal for 60 feet lengths and 102 inches width.

8—Uniform traffic laws.

9—Flat fees to replace mileage tax

10—Periodic vehicle inspection.

11—Additional regulation of automobile dealers and automobile financing.

In OHIO proposals will be introduced to enable the construction of toll roads. Several such proposals were defeated in 1947. Other measures that will be considered are:

1—Gasoline tax increase.

2—Strengthen driver's license law.

3—Registration fee increase.

4—Enact accident reporting law.

5—Periodic vehicle inspection

6—Highway planning legislation.

7—Reestablishment of the Postwar Program Commission and the Highway Study Committee.

8—Proposal to increase length to 13½ feet and width to 102 inches.

In WISCONSIN, bills are expected to be introduced to provide uniform laws based on the comparative analysis of the Wisconsin laws with the Uniform Code by the National Highway Users Conference. Other measures to be considered are:

1—Periodic vehicle inspection.

2—Municipal pedestrian control enabling act.

3—Strengthen driver's license law.

4—Proposed 60-mile speed limit.

5—Increase the number of traffic patrolmen.

6—Limited access highways and road-side zoning.

7—Reorganize Highway Department.

8—Reduce weight limits.

9—Increase the gasoline tax.

10—Repeal of the ton mile tax and truck permit fees.

11—Increase truck registration fees.

12—Increase farm truck registration fees.

13—Anti-diversion amendment.

(TURN TO NEXT PAGE, PLEASE)

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LEGISLATIVE OUTLOOK FOR 1949

(Continued from Page 175)

Walter Holland

ARKANSAS . KANSAS . OKLAHOMA . . MISSOURI . . TEXAS

by WALTER HOLLAND

THIS region includes, Missouri, Kansas, Arkansas, Oklahoma and Texas. In Kansas, the legislative outlook will depend largely on findings of the Highway Fact-finding and Research Committee, created in 1947 to study road needs and methods of financing a long-range program. This Committee will present its program for consideration by the 1949 legislature. An engineering survey of the state's highway system and future needs has been completed but this report has not yet been made available. The committee has held meetings throughout the state, and two facts seem to be apparent: (1) Kansas wants no road bonds and (2) desires a "pay-as-you-go program." The people are willing to build and improve county and local roads with local property taxes. The legislature will consider substitution of the present gasoline tax exemption procedure with a gasoline tax refund system. The Legislative Council is studying a bill to repeal the ton mile tax and substitute higher truck registration fees. An increase in automobile registration fees is also advocated. Truck operators are expected to support proposals to increase maximum length from 45 to 50 feet, increase gross weight from 63,000 to 75,000 pounds and increase axle weight from 18,000 to 20,000 pounds. Other bills will be presented to strengthen the driver's license law by requiring effective examinations and to put teeth in the financial responsibility law.

Higher Fees in Arkansas

In Arkansas, one or more proposals are expected to increase the gasoline tax and efforts will be made to increase registration fees on trucks and trailers.

Texas Proposals

At this time, size and weight legislation is not expected in Texas. The Governor's Safety Conference went on record in favor of a financial responsibility law conforming to the Uniform Code. Traffic laws were amended in 1947 to conform to Act V and these may be amended in minor respects to eliminate unworkable parts and generally improve language. There is some support for repeal of gasoline tax refund provisions so that this money could be applied to farm-to-market roads. The Texas Rural Roads Association is advocating additional funds for local roads and they may propose any or all of the following:

1—An increase in the gasoline tax.

2—An increase in the severance tax on crude oil or

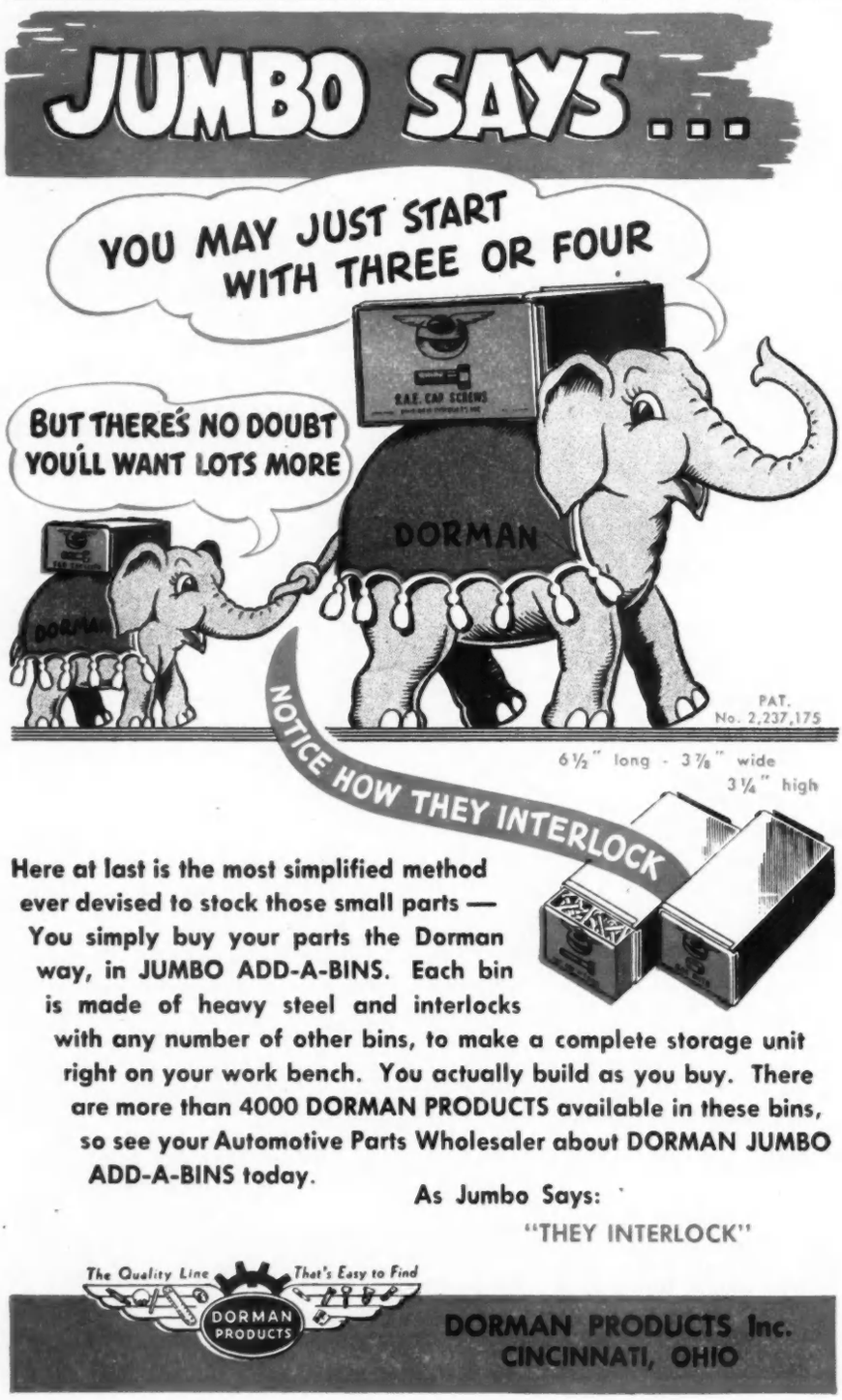
3—The taxation of refined gasoline exported from the state (now tax-exempt).

Reciprocity in Oklahoma?

In Oklahoma, the State Legislative Council has discussed motor vehicle reciprocity. Apparently, some members of the legislature feel that the state's reciprocity law was supposed to be a temporary war measure although it appears in the printed laws as a permanent enactment. Proposals may be made to budget all state departments including the State Tax Commission and the State Highway Department. The recent action of the Louisiana Legislature increasing the gasoline tax in that state to 9 cents has focused more attention on this tax in Oklahoma. Several legislators are reported to be in favor of increasing the gasoline tax if proceeds are used exclusively for highways.

It is expected that bills will be introduced to make Missouri laws conform more closely to the Uniform Code. Another bill will increase the weight on tandem axles. Proposals will be made to increase the gasoline tax.

(TURN TO PAGE 178, PLEASE)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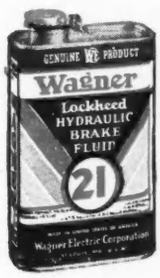

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LEGISLATIVE OUTLOOK FOR 1949

(Continued from Page 176)

Cecil Fausch

LEGISLATIVE Interim Highway Study Committees have made studies recently in four states of this region—Iowa, Minnesota, Nebraska and South Dakota. The recommendations of these Study Committees will determine largely the legislative proposals at the 1949 sessions. Highway users in Minnesota anticipate proposals to increase both gasoline taxes and registration fees. The amount of increases will depend upon the outcome of November voting on the 50-50 amendment which will give the counties 50 per cent of the gasoline tax revenue if it is passed. Under the present law, they receive ⅓. Other proposals in Minnesota will redesign the county road system for protection against dispersal of funds and to protect the trunk highway system against undue extension.

In IOWA, attempts will be made in Iowa to increase highway revenue, especially for secondary roads. They are expected to appear in the form of gasoline tax and motor vehicle registration fee increases and by taking money from the general fund for road financing. Municipalities will ask for a greater share of state highway funds and demands will be made for widening existing paved highways and accelerating the farm-to-market road system. Proposals also will be made to return to the ton mile basis of truck taxation. Size and weight limits were liberalized in 1947 and user groups are faced with the task of holding these gains. Bills will be introduced to make Iowa laws conform more closely with the Uniform Code.

In NEBRASKA, problems are expected to be more clearly defined when the study being made by the Governor's Highway Committee is made public. Proposals are expected to increase the gasoline tax at least 1 cent and to increase passenger cars and truck registration fees substantially. Several Nebraska cities have attempted to impose wheel taxes and bills are expected to broaden the powers of municipalities in this type of taxation. An attempt will be made to repeal the gasoline tax refund law. Efforts will be made to reduce size and weight limits enacted by the 1947 legislature.

In NORTH DAKOTA, increased revenue resulting from passage of the gasoline tax refund law has resulted in no new demands for additional revenues. An effort will be made to use a portion of the general fund for highway purposes. The League of Municipalities will support a 1 cent gasoline tax increase with no refund and counties and townships are seeking methods to raise money for local roads. Motor carriers are working with the Legislative Research Committee on a new motor carrier regulatory law. New size and weight limits will also be considered. Highway user groups are urging the creation of a Legislative Interim Highway Study Committee.

SOUTH DAKOTA, faced with a large road mileage, a small population and a large tourist trade feels the need for more revenue for highways. The Governor has indicated that most of the needed funds can be taken from the General Fund although proposals are expected to increase gasoline taxes, registration fees and ad valorem tax levies for roads. Motor vehicle laws are expected to be amended to conform to the Uniform Code and the passage of a driver's license law seems a good possibility. Motor carriers will ask a revision of "frost laws" that result in reduction of gross weights in March and April each year. The Legislative Highway Study Committee probably will recommend continuation of its activities into the next Interim with broader power and scope for study of the state's highway problems.

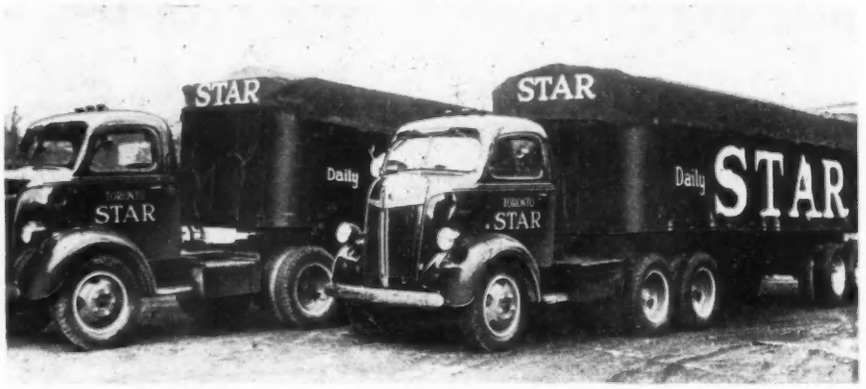
(TURN TO PAGE 180, PLEASE)

IOWA . . . MINNESOTA . . . NEBRASKA . SOUTH DAKOTA

by CECIL FAUSCH

It's Fabco

IN CANADA, TOO!



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LEGISLATIVE OUTLOOK FOR 1949

(Continued from Page 178)

H. B. Simpson

LONG-RANGE highway planning is in the spotlight position in all of the states in this region. In most of these states, bills will be introduced to bring the state laws into closer conformity with the Uniform Code. On a state-by-state basis, the following proposals will receive legislative consideration:

COLORADO:

1—Extensive changes in highway administrative laws.

2—Establishment of a Highway Interim Study Committee.

3—Adoption of needed portions of the Uniform Code.

4—Elimination of the ton mile tax on commercial vehicles.

COLORADO . . IDAHO . . UTAH MONTANA WYOMING WASH.

by H. B. SIMPSON

IDAHO:

1—Establishment of an Interim Highway Study Committee.

2—Enactment of Acts II and V of the Uniform Code.

3—Proposal for a mileage tax similar to that of Oregon.

4—Adoption of new weight limits equivalent to 850 x (L + 40).

5—Revamping of highway administrative laws.

6—Elimination of bus seat tax.

MONTANA:

1—Establishment of an Interim Highway Study Committee.

2—Increase in gasoline and diesel fuel taxes.

3—Proposal for a ton mile or gross tonnage tax on trucks and buses.

4—Changes in gasoline tax refund law.

5—Proposal for a state highway fund levy.

UTAH:

1—Changes in highway administrative laws.

2—Anti-diversion constitutional amendment resolution.

3—Proposal for 2 cents increase in the gasoline tax.

4—Creation of an Interim Highway Study Committee.

WASHINGTON:

1—Consideration of the report of the Interim Highway Study Committee.

2—Increase in the gasoline tax.

3—Return to the Highway Fund of $10 million diverted in past years.

4—Increase in driver license fees to provide for motor vehicle inspection.

5—Enabling legislation for highway improvement districts.

6—Increase in registration fees.

WYOMING:

1—Legislation to prevent cities from imposing municipal gasoline taxes.

2—Anti-diversion constitutional amendment resolution.

3—Limited access highway law.

4—Increase gross weight to equivalent of 850 x (L + 40).

5—Establishment of an Interim Highway Study Committee.

6—Amendments of traffic laws to bring Wyoming into conformity with Act V of the Uniform Code.

(TURN TO PAGE 182, PLEASE)

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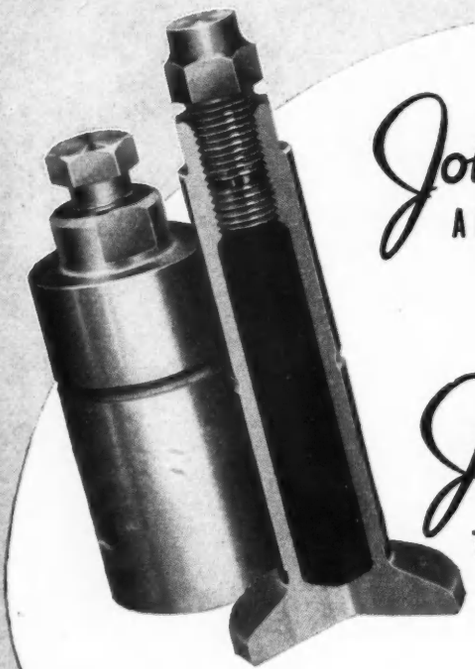

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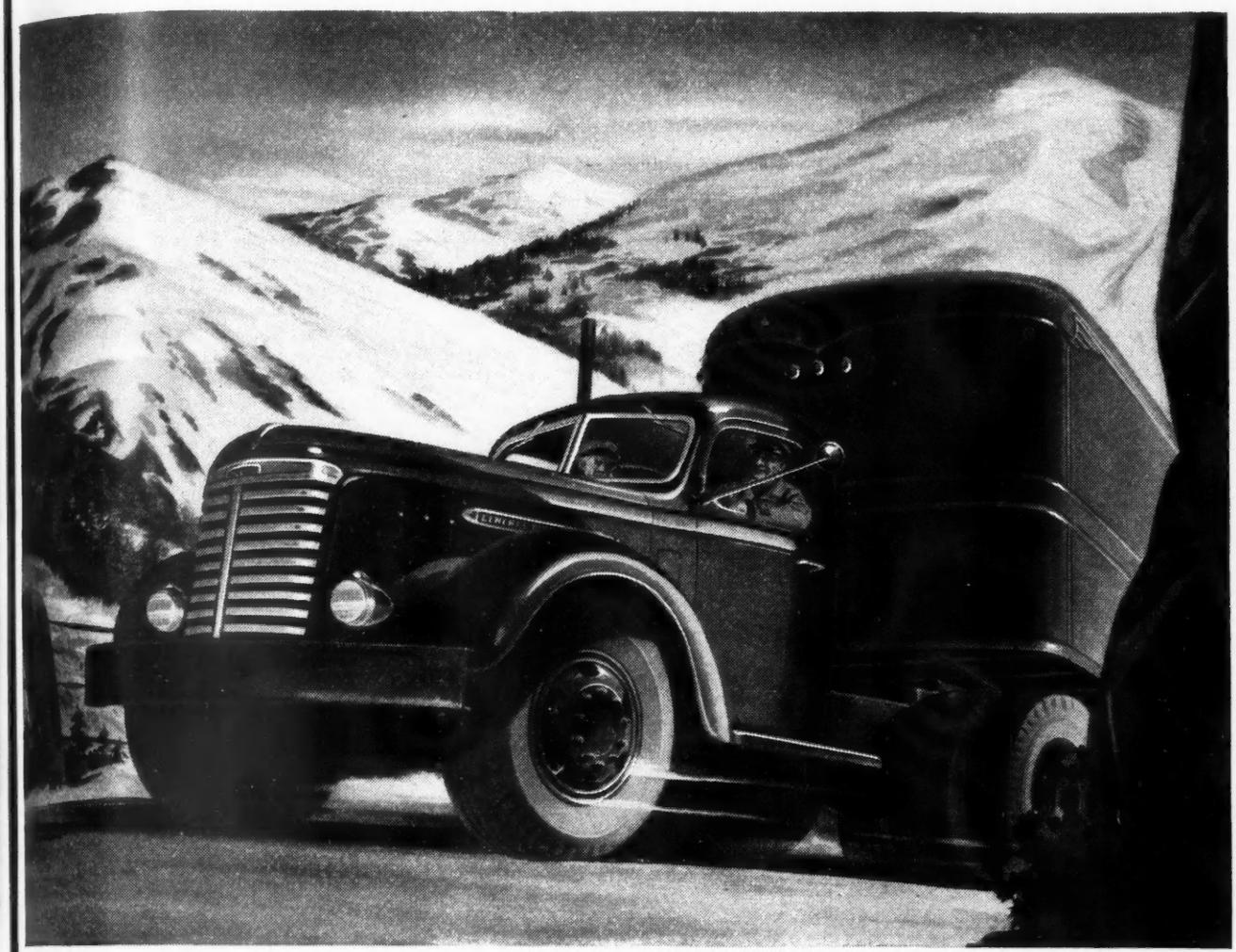

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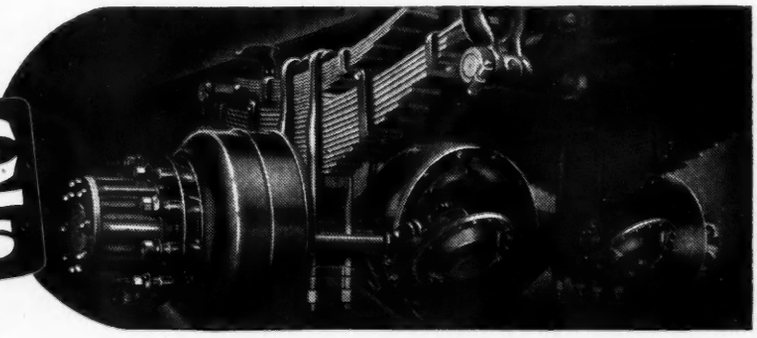

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LEGISLATIVE OUTLOOK FOR 1949

(Continued from Page 180)

ARIZONA . . NEVADA . . NEW MEXICO . . OREGON . . CALIF.

by RANDLE P. SHIELDS

Randle P. Shields

THE 1949 session of the ARIZONA legislature is likely to consider the following matters affecting highway transportation:

1—Constitutional amendment dedicating highway revenue exclusively to highway purposes.

2—Repeal of the 2½ per cent gross receipts tax on for-hire carriers and readjustment of truck registration fee scale.

3—Enactment of Acts II and V of the Uniform Code, modified to allow status quo on truck sizes and weights.

4—Proposal by cities and counties to increase the gasoline tax from 5 to 6 cents.

The 1949 session of the CALIFORNIA legislature may be confronted with agitation to reduce highway user taxes on the grounds that highway revenue allegedly is piling up in much larger amounts than was anticipated when these taxes were increased by the 1947 legislature. Efforts will be made to eliminate the 3 per cent gross receipts tax on for-hire carriers and to reduce the passenger car registration fee from $6 to $3. Private carriers, including farm interests, may seek modification of private truck fees. Several changes in motor vehicle laws including regulation of performance ability of motor vehicles are likely to be recommended by the Advisory Committee on Motor Vehicle Legislation.

In NEVADA, an effort to perpetuate and make state-wide, the 1½ cent optional county gasoline tax, allowed temporarily by the 1947 legislature, may be made in '49.

NEW MEXICO highway users will request consideration of the following matters:

1—Anti-diversion amendment.

2—Establishment of a legislative Interim Highway Study Committee with highway user representation.

3—Constitutional amendment to provide for appointment of highway commissioners for 6-year, staggered terms instead of for 2 years.

4—Adoption of Uniform Code modified so that existing size and weight limits will not be reduced.

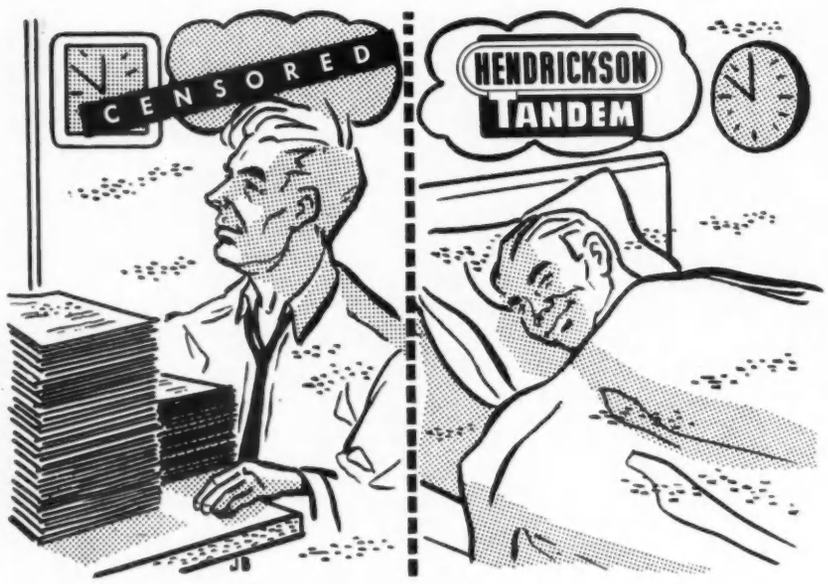
5—Elimination of ports-of-entry and completion of reciprocity agreements.

The 1949 session also will be confronted with efforts to raise additional revenue to pay off highway bonds. A 2 cent gasoline tax increase will be sought for this purpose, an alternative being the earmarking of 1 mill against property for highway purposes. Highway users will resist additional taxes unless the need is clearly established and unless assurance is given that no highway revenue will be diverted. Readjustment of the truck registration fee scale to allow for elimination of ton mile tax is a possibility.

In OREGON, methods of financing a long-range highway program by the Legislative Interim Highway Study Committee will be considered by the 1949 legislature. The methods of financing will depend on whether the legislature decides to extend the highway program over a 10, 15 or 20 year period. In any case, increases in gasoline tax and registration fees appear possible. A 15-year program seems most likely. Changes in the wording of the Motor Transportation Code to prevent its discrimination against "anywhere-for-hire" carriers will be sought. Carriers of such products as cement, sand, gravel and lumber will seek a revision of the Code to place them in the same position as petroleum haulers with respect to reduced tax rates on empty back hauls. No fundamental changes in the ton mile features of the tax law are expected although efforts will be made to decrease the difficulties of bookkeeping and enforcement.

END

(Please resume your reading on P. 103)



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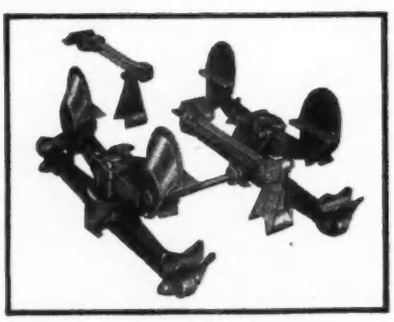

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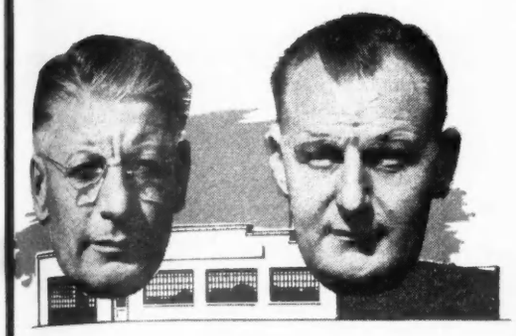

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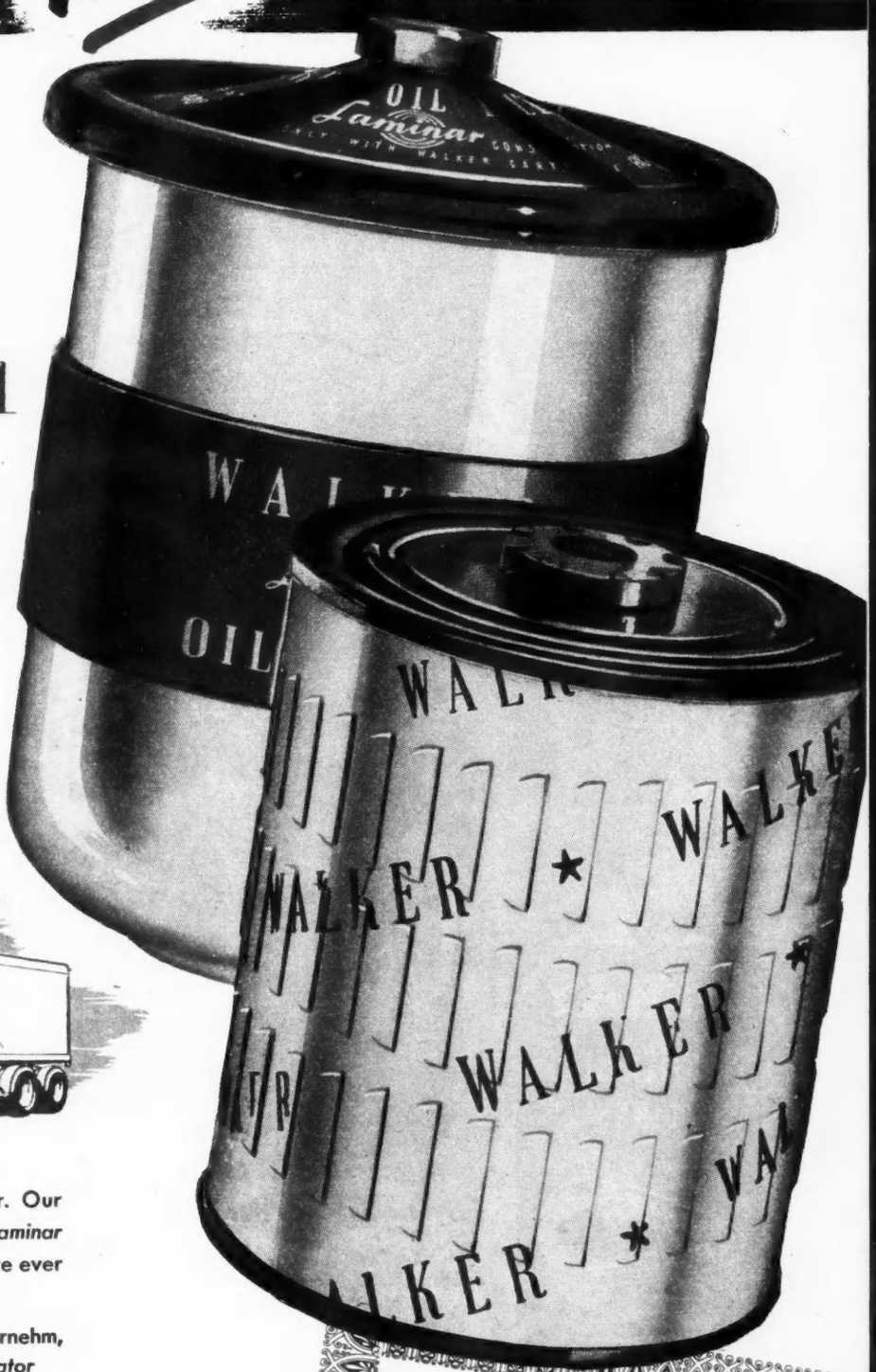

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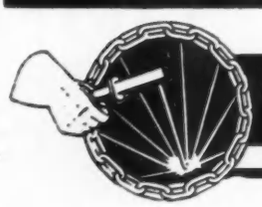

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How It Started

(CONTINUED FROM PAGE 80)

state to set up such a system for the purpose of collecting the state tax on motor fuel transported into the state from other areas by trucks. This was the main purpose of such legislation at first, but now it is used for inspection and quarantine of horticulture and live stock products, and for enforcement of state registration and size and weight regulations.

Marker and Clearance Lights

LEGISLATION requiring marker and clearance lights on commercial vehicles is of recent origin. When this type of regulation was first adopted, there was practically no uniformity as to specifications or location on the vehicles of such markers and clearance lights. In several states, various commissions were given authority to prescribe this equipment, while in others, this regulation was a matter of statutory law. This resulted in considerable confusion and inconvenience to interstate truck transportation and it was practically impossible for long-haul trucks, whose routes took them through three or four states, to comply with all of the laws in each state.

In 1939, the Interstate Commerce Commission's Motor Carrier Safety Regulations prescribed a system of marker and clearance lights. This system is endorsed by the National Conference on Street and Highway Safety. Most of the states have adopted these regulations in varying degrees.

Driver Hours Limitations

LEGISLATION regulating or limiting driver hours of service of commercial vehicles has not met with complete and uniform acceptance. Alabama, in 1931, was the first state to limit drivers' hours of service. As of Sept. 1, 1941, only 16 states had enacted any provisions regulating driver hours of service. The Interstate Commerce Commission's Motor Carrier Safety Regulations have provided a limit on driver hours of service since 1938.

END

(Please resume your reading on P. 81)

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NO matter what type filters you've installed in your equipment, genuine Fram Replacement Cartridges cost you *less* per mile of efficient oil cleaning.

The carefully tested and controlled manufacture of genuine Fram Cartridges gives you an unsurpassed filter efficiency that lasts longer. The cost of Fram Cartridges is *rock-bottom* when compared with the lasting, constant efficiency they offer you. A Fram Cartridge will outlast cheaper types ... pay for itself . . . in the end save you money on repair costs and maintenance.

Prove it yourself. Make this test . . . put Fram Filters on your fleet. If you are not convinced that they do a better job, cost less per clean-oil mile, return them to the Jobber who sold them to you under Fram's unconditional money-back guarantee. For more information write: Fram Corporation, Providence 16, R. I. *In Canada:* J. C. Adams Co., Ltd., Toronto, Ontario.

NEW FRAM GASOLINE FILTER
really removes both solids and water, protects finely adjusted carburetor mechanisms.

NEW FRAM CRANKCASE AIR FILTER
replaces conventional breather caps, protects engine where most dirt enters the crankcase.

FREE! FRAM WALL CHART

Tell at a glance what Fram Cartridges fit any make filter! Ideal for fleet garages. EXTRA—check below if you also want a convenient, individual chart on which you can list the correct Fram Replacement Cartridges for your specific fleet only. *Mail coupon below, today!*

FRAM CORPORATION, PROVIDENCE 16, R. I.
- ☐ Please send me immediately FREE FRAM WALL CHART on Cartridges.
- ☐ Also please send individual chart to list my fleet only.

NAME .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
Total number of vehicles in fleet .....
Name of Jobber purchased through .....

FRAM *Oil Air Fuel* **FILTERS**

Vehicle Safety

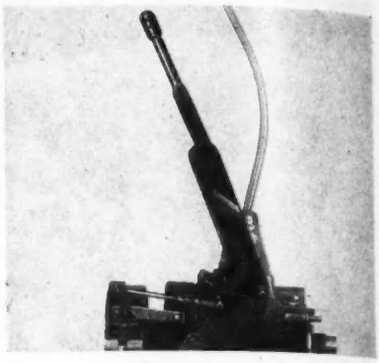
(Continued from Page 54)

S24. Tank Truck Ground

A ground chain attachment for tank trucks made of alloy steel which cannot be machined or drilled. Made of 5 round, rotating links attached to a clip, this chain can be moved down old chain as ground link wears off. Under abrasion, links polish and harden for long life. The Downtown Co., Cleveland, Ohio.

S25. Hand Brake Lever

Model 1550 Orschelen Brake lever, floorboard type, mounts on transmission to provide an instant emergency brake with the twist of the wrist. Device can be attached to the conventional emergency brake mechanisms. It is self adjusting, in that the device takes up for lining wear through the adjustable knob on the handle.



Built of sturdy materials the new lever is said to eliminate danger of brake slipping off when vehicle is parked. Can be mounted to work off either drive shaft or axle brakes. Installed in about 30 min. The Alken Co., Moberly, Mo.

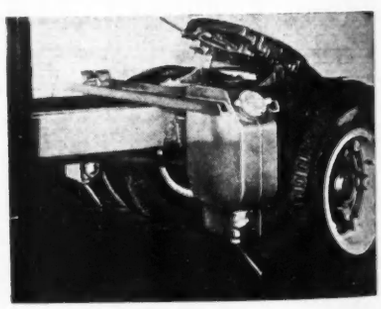
S26. Alarm System

Babaco Siren Burglar Alarm Systems, custom-made in a variety of types for trucks, trailers, pick-ups and passenger cars.

The alarms are leased under a care contract calling for continuous maintenance, available at more than 100 authorized agencies throughout the U. S. Truck and trailer types, utilizing own power source, are inspected every thirty days, including interchange of battery each time. All equipment is housed in tamper-proof steel, siren is of heavy-duty police type. Babaco Alarm Systems, Inc., New York, N. Y.

S27. Electric Road Sander

Electric road sander, providing instant traction and skid control for icy or wet roads. Operated by electric switch mounted

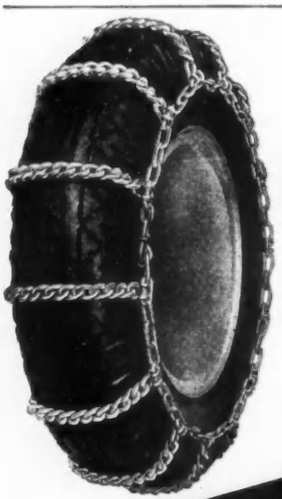


on dash panel controlling solenoid valves in twin steel hoppers in front of driving wheels. Driver spreads safety grit in front of wheels when conditions require it. Highway Safety Appliances, Inc., St. Paul, Minn.

S28. Directional Light

A directional light assembly including a signal control unit housed in stainless steel. Includes a control switch, 6-way connector, two tail lights and license light. Combined in the unit is a separate switch control, a separate flasher control. Theodore Bargman, Detroit, Mich.

(TURN TO PAGE 190, PLEASE)



For Winter Weather Traction ...equip with

CLAW* TIRE CHAINS

They GRIP because they CLAW

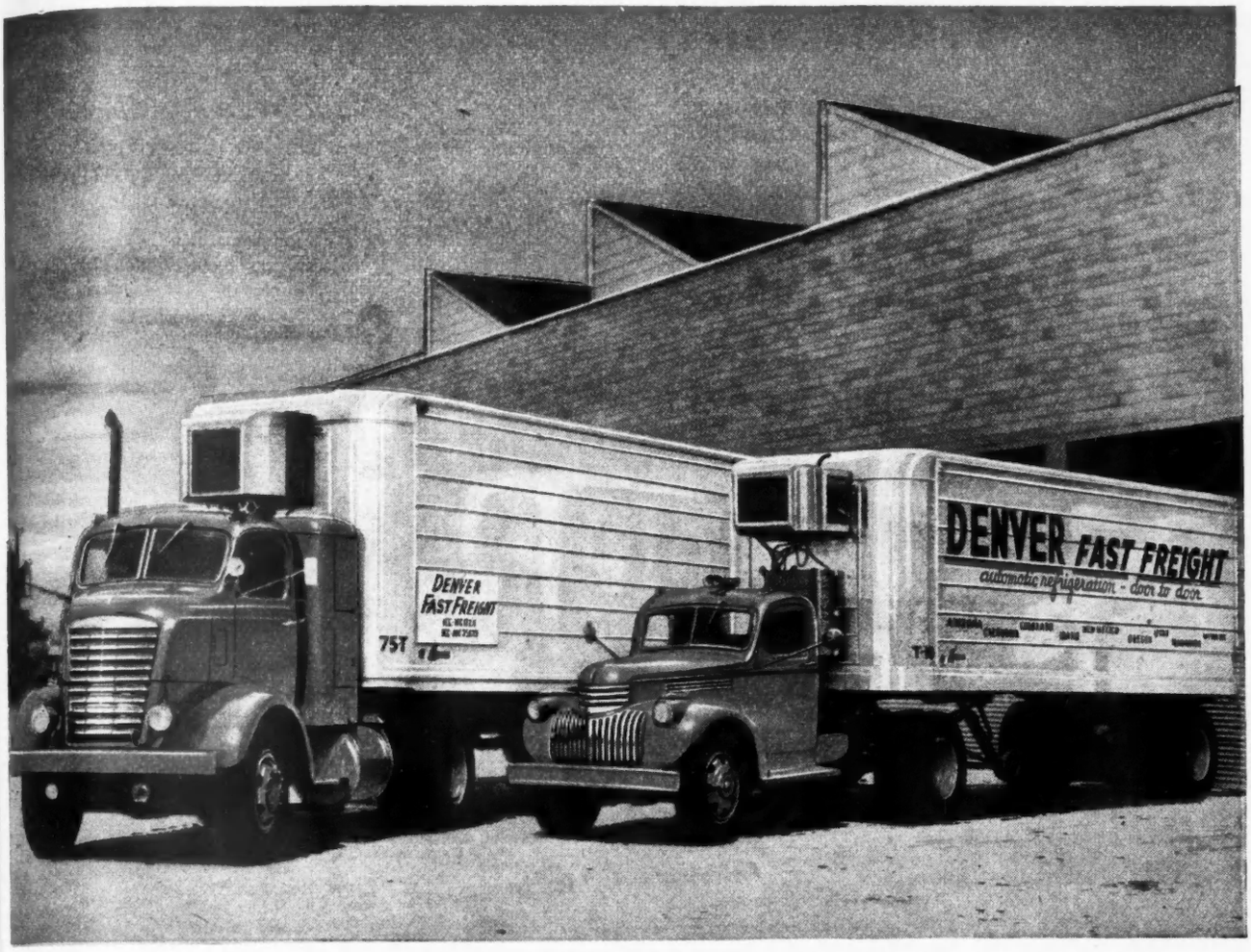
The cost of a set of CLAW chains isn't a drop in the bucket compared to the value of a car or truck, their loads, or your operating schedules. Keep 'em rolling surely and safely. Buy CLAW chains...the "traction insurance" used by the biggest operators.

COLUMBUS McKINNON Chain CORPORATION

General Offices and Factories: Tonawanda, N. Y.

Plants at Angola, N. Y.; St. Catharines, Ont., Can.; Vereeniging, So. Africa

Booths B-23-25 . . . A.S.I. Show . . . Chicago . . . December 6-10



Illustrated are a standard tandem axle Brown Aluminum Trailer, and a special city pick-up and delivery trailer. Both are refrigerator type, the large unit hauling fresh meat between Denver and Chicago, the smaller unit doing pick-up and delivery work in Chicago.

"Lightweight and Low Maintenance Make Browns Money-Makers on Meat Hauls"

Denver Fast Freight Reports:

"We are very pleased with the performance of your aluminum trailers on our operation between Chicago and Denver.

"We haul fresh meats exclusively out of Denver, and the very peak of performance is demanded, as this product cannot be delayed.

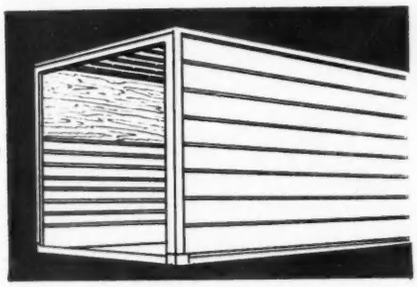
"Light trailer weight, plus low cost maintenance has resulted in our 20 trailers paying their way on these features alone."

Denver Fast Freight is typical of the many operators, large and small, now standardizing on Brown Aluminum Trailers.

They have found that Brown's exclusive light weight is paying off in bigger payloads—more revenue dollars.

Lightweight materials plus frameless, airplane type monocoque construction guarantee this weight saving in Brown Aluminum Trailers.

If dead weight is costing you dollars, it will pay you to investigate Brown Aluminum Trailers. See the Brown representative in your area, or write us.

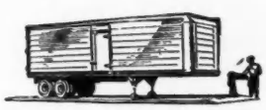


The Brown Aluminum Meatrailer is equipped with sturdy long time meat rails, easy-to-clean aluminum floor and sides, and highly efficient insulation throughout.

Brown ALUMINUM TRAILERS

Brown Industries
Spokane 1, Wash.

Brown Trailer Company
Chicago 8, Ill.



"The Scale Tells the Tale"

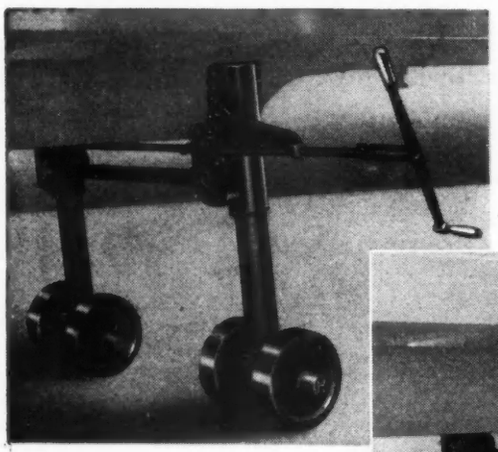
Sales and Service in: Akron, Chicago, Cleveland, Denver, Detroit, Fort Worth-Dallas, Fresno-Sacramento, Great Falls, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis-St. Paul, St. Louis, Salt Lake City, San Francisco, Seattle, Spokane.

Vehicle Safety

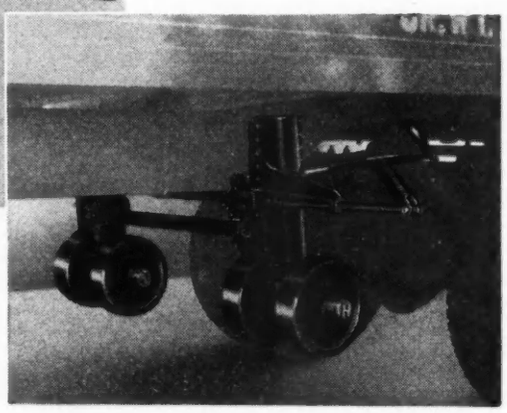
(Continued from Page 188)

S29. Safety Tank

Prior Ob-Round safety tanks are compact, hug the frame and mount well inside the tires. Are lighter in weight per gallon. Interchangeable on any truck frame width. Every top-fill tank has a visual gage as standard equipment as well as fuse plug and vented brass filler cap with ball check. Two diameters—19 in. and 22 in. Three lengths—27 in. and 33 in. Six capacities—31 gal to 54 gal. Prior Products, Inc., Middletown, Ohio.



HOLLAND



IMPROVED

Vertical Lift LANDING GEAR

Load Lifting Power unequalled by any other type.

18" ground travel clearance—6" more than others.

Safe—Simple—Durable Fast and Easy.

The Nationally Known and Approved Standard

Features are engineered into the Holland V-400 Vertical Lift Landing Gear which make it the choice of those most experienced in truck and trailer operations. Its tremendous lifting power, with speed and ease, is matched by its great safety, simplicity, and durability. Made by the makers of the well-known Holland Fifth Wheel and Holland pintle and couplers.

ENGINEERED BY

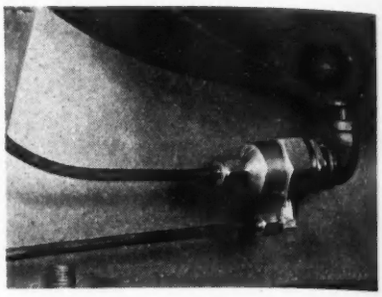
HOLLAND HITCH COMPANY

HOLLAND, MICHIGAN, U. S. A.

S30. Water Unloader

A fully automatic water unloader which removes all water and oil from the air compressor tank.

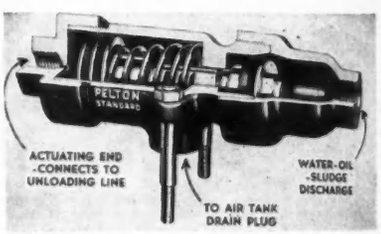
Designed to fit any electrically-operated air compressor which is equipped with a centrifugal or magnetic unloader, the Lansdale Water Unloader eliminates manual draining of tank by automatically drawing off the water and oil as it collects.



As a means of filtering out particles of rust and dirt and preventing possible damage to the unloading mechanism, the unloader has a wire mesh screen inserted ahead of the mechanism. Device is easily installed. A. Shelburne Co., Los Angeles.

S31. Moisture Ejector

The Pelton Moisture Ejector Valve automatically ejects water, oil and sludge from air lines.



Valve will eject an average of 1.64 cu in. of liquid when air compressor "cuts in", and again when air compressor "cuts out". Operation is automatic, tank pressure furnishing motive force. Monroe Standard. Inc., Galion, Ohio.

S32. Fire Extinguisher

The Ansul 4 Dry Chemical Fire Extinguisher requires little service; no annual recharge necessary. The dry chemical, the extinguishing agent, cannot leak or evaporate.

Recharging is possible at the scene of the fire. Weighs 10 lb fully charged. It is 19⅛ in. in height and 3½ in. in diameter. Ansul Chemical Co., Marinette, Wis.

(TURN TO PAGE 193, PLEASE)

Vehicle Safety

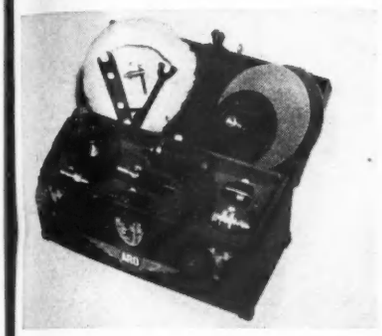
(Continued from Page 190)

S33. Lamp and Flare

A combination emergency light and signal flare, Big Beam 400-F, features a double-throw, single pole switch for selection of either the steady light or the flashing flare with 100-112 flashes per minute. Life of the batteries, 20 to 28 hours. Bulbs are covered with a red Fresnel lens of molded plastic that directs the light in horizontal beams. Standard volt, dry-cell lantern batteries used. U-C Lite Mfg. Co., Chicago, Ill.

S34. Pneumatic Tool Kit

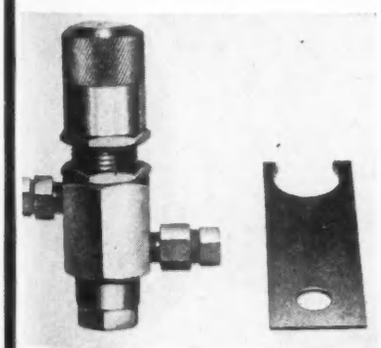
The Aro all-purpose tool kit with 6 air tools used as a polisher, sander, wire brush, hole saw, drill, carbon brush. Features light weight, a new method of



adjusting speed from 700 to 2400 rpm and low air consumption. Requires 90 lb pressure for stall-proof operation. All moving parts mounted in ball bearings. The Aro Equipment Corp., Bryan, Ohio.

S35. Limiting Valve

Automatically limits front wheel brake pressures. The regulating effect of this

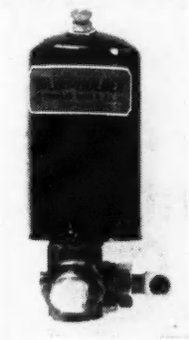


valve prevents front wheel lock and gives greater control on slippery surfaces. Said to increase life of front wheel brake linings. The New York Air Brake Co., New York, N. Y.

S36. Safety Alarm

A high or low temperature alarm, consisting of a single action switch with a capacity great enough to sound an alarm, snap on a light, and shut off the engine, when high or low temperature setting is reached "Thermo Clix" is a controlled range twin snap action switch with individual adjustment. Unit may be a part of a hook-up that lights a "green normal" light when engine is operating at a normal temperature. If temperature of engine rises or drops to a danger point, the green light goes off and a red "danger light" is turned on. At the same time, alarm sounds and ignition time-shut-off cycle is started. The Nason Co., Detroit, Mich.

S37. Roll Holder



The Rein Roll Holder providing a brake lock upon the flip of a switch after hydraulic brakes are applied. Brakes are released with a turn of same switch.

Anti-theft device consists of a secret switch located in concealed place. Driver turns switch on when leaving

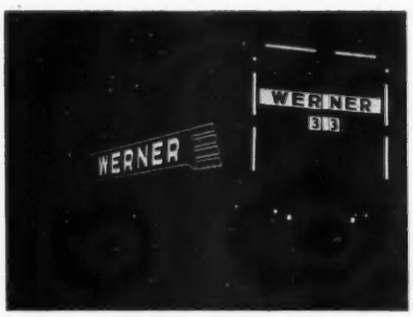
(TURN TO PAGE 194, PLEASE)

OTC
NEW HEAVY DUTY REVERSIBLE RATCHET
H-363 — 20" long
Handiest, smoothest-operating, sturdiest reversible ratchet yet developed. Reverses with a flip of the fingers on knurled button. Working parts fully enclosed to prevent clogging. Short throw permits work in close quarters, yet long enough for ample leverage.
When you need PULLERS, think of OTC—the COMPLETE Line. Ask your OTC Jobber.
OWATONNA TOOL CO.
335 CEDAR ST. • OWATONNA, MINN.
AUTHORIZED DISTRIBUTOR OTC MAINTENANCE TOOLS
LOOK for this Sign
CT-685 ADJUSTABLE SPANNER WRENCH
577 PLYMOUTH STARTER WRENCH
865 STUD PULLER
403 FORD HUB BOLT WRENCH
TC-56-81 UNIT THREAD CHASER
1133 TIRE IRON SET
OTC Specialists in Special Tools
TO MAKE HARD JOBS EASY
431 FORD KING PIN REMOVER
HC-642 TRUCK PITMAN ARM PULLER
944-A PINION SHAFT PULLER
847 BATTERY TERMINAL PULLER

Vehicle Safety

(Continued from Page 193)

truck; truck is then "guarded." The first application of brakes causes a locking of all wheels until switch is released. Offers effective protection against hi-jacking. Charles Rein and Co., Inc., New York, N. Y.

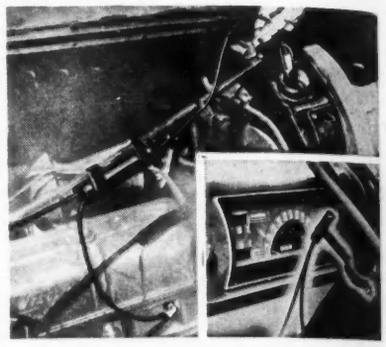


S38. Reflective Sheeting

"Scotchlite" reflective sheeting, composed of millions of microscopic glass spheres coated on a plastic backing, reflects light 150 times brighter than white paint at night. Available in 31 varieties and colors, it reflects shape, color and legend of signs, and outlines rear ends and sides of trucks, making them brightly visible to approaching traffic after dark. Applied with adhesive. Minnesota Mining and Mfg. Co., St. Paul, Minn.

S39. Low Water Indicator

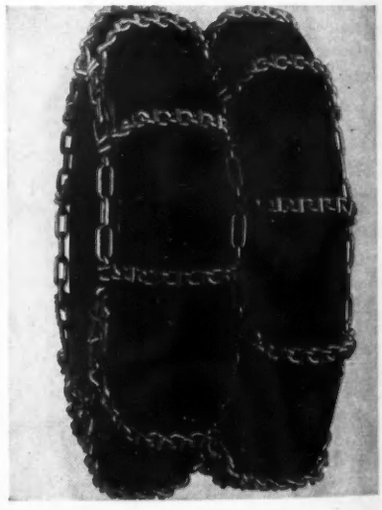
An instrument to automatically flash a warning signal to the truck driver when the level of coolant in the radiator drops.



According to the manufacturer, it can be installed in from 5 to 10 min, has no moving parts and requires no maintenance. The slight energy required is taken from the ignition system. Lindberg Instrument Co., Berkeley, Cal.

S40. Tire Chains

Master Grip and Sterling Wearwell tire chains available for passenger cars as well



as single pneumatic and double pneumatic styles for trucks and buses. Cleveland Chain and Mfg. Co., Cleveland, Ohio.

S41. Reflector Flares

The Reflector Flare equipped with Stimsonite lenses, will not skid or tip when placed on the road. Reflected light is visible for ½ mile in either direction. The Dietz No. 80-C Marker Light is streamlined to conform to modern truck, trailer and bus design. Its curved base fits vehicle body contour. R. E. Dietz Co., New York, N. Y.

END

(Please resume your reading on P. 55)

They Go Together...

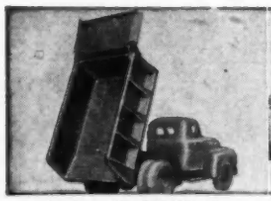
THE New TRUCKS and ANTHONY HYDRAULIC EQUIPMENT..

Anthony Model D-50 Garbage Body

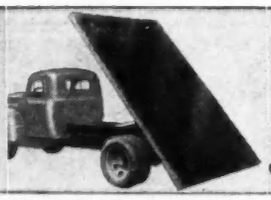
Mode D-6 Contractor Body —Super Hoist.

Anthony Company has simplified the entire problem of matching the proper dump bodies with the proper sized trucks. It is easier to recommend and sell Anthony Hydraulic Products on 1948 trucks because they are built to "go together."

Write for "Easier Dump Truck Sales."



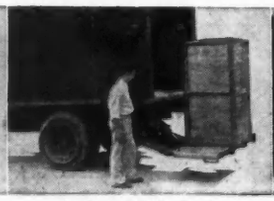
Anthony Model JIR-14 Rock Body.



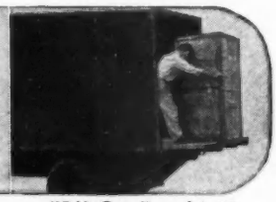
Model X-150 All Steel Platform Body with Hoist.

Anthony "Super" Hoist — Heavy Duty, "J" Body.

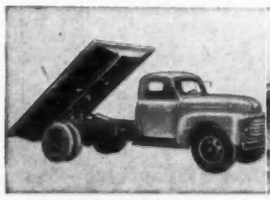
Model TH-88 Semi-Trailer Hoist. "R" Body.



Anthony "Lift Gate" loads-unloads trucks.



"Lift Gates" used in 75 industries.



Anthony "Lo-Dumper" Farm Hoist.

Model D-18 Street Dept. and Highway Body.

ANTHONY HYDRAULIC

ANTHONY COMPANY

Dept. D-83, Streator, Illinois

Distributors Throughout America

HERE'S UTMOST RELIABILITY

IN SPEEDOMETER CABLES & CASINGS

Twenty-two years of "know-how"—twenty-two years of experience in meeting the factory-equipment requirements of automotive engineers have given AC Cables and Casings *utmost reliability*. That's why more and more fleet owners insist upon them for all replacements.

The AC Trade-Mark Assures This Quality

CABLES—Made of highest grade steel wires on special, AC-patented winding machines.

Heat treated by AC-patented methods to assure highest quality, which means:

Quiet, steady performance of flexible shaft and speedometer. Smooth and free running around bends.

Steady driving torque of long flexible shaft; hence, steady pointer performance of speedometer.

High torque strength gives long life.

CASINGS—Made of high grade, pre-formed, galvanized steel wire to give maximum flexibility and strength.

Rustproof and leakproof.

Wound on special, AC-patented winding machines.

Designed to give maximum protection to the cable.

All ferrules and coupling nuts are zinc-plated for rustproofing.

For Trouble-Free Lubrication

AC Lubricant ST-640 will not melt, congeal, absorb moisture, or discolor. Sold in handy 8-oz. tubes.

STANDARDIZE ON AC, THE EQUIPMENT THAT GIVES YOU *UTMOST RELIABILITY*.

AC SPEEDOMETER { CABLES and CASINGS

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

Shop Tools and Equipment

(Continued from Page 61)

numeral register provides easy control of delivery up to 10,000 gal, while separate "totalizer" maintains a record of total gallonage dispensed. Equipped with either "zero-start" ticket printer for individual delivery record, or "accumulative" type which shows the total gallonage delivered before and after each fill. Delivers 13-15 gal per min with standard pumping unit, or approximately 22-24 gal when specially ordered with heavy-duty unit. Service Station Equipment Co., Muskegon, Mich.

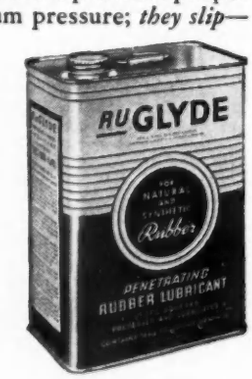
T22. Pyrene Extinguishers

Vaporizing liquid extinguishers available in the 1½-qt 2-qt and 1-gal (illustrated) sizes. Pyrene Mfg. Co. Newark, N. J.

Here's where a few pennies can save you many dollars. Just a simple application of RuGLYDE Rubber Lubricant may prevent premature tire and tube failure and most certainly speed the mounting and dismounting of bus and truck tires. This 100% SAFE, non-petroleum, rubber lubricant is endorsed and used by car and tire manufacturers and major oil companies for both natural and synthetic tires and tubes.

RuGLYDE prevents pinching and chafing because it provides proper lubrication to seat tubes and flaps with minimum pressure; *they slip—not stretch—into place. Will not* induce rim rust or cause tire static.

RuGLYDE makes stuck or rusted tires dismount with ease and without damage to bead or rim. This man-and-money-saving rubber lubricant comes in 8 oz. refillable dispenser size and one and five-gallon cans.—AMERICAN GREASE STICK CO., Muskegon, Mich.



OFF AND ON THE RIM WITH RUGLYDE MAKES TIRE CHANGING SAFER, FASTER, EASIER

DISMOUNTING . . . Apply RuGLYDE to both sides of tire along edge of rim. Allow few minutes for penetration, then proceed with removal.

MOUNTING . . . Apply RuGLYDE with a small cloth or RuGLYDE applicator, sparingly, to areas of tires, tubes or flaps requiring a wet lubricant.

ORDER FROM YOUR JOBBER

T23. Hydraulic Jack

Series H-200 jack providing power in both push and pull operations for use with body-fender-frame tools. Unit is safety-valve-controlled to prevent overloading, bending or breaking. Fittings and accessories are available to handle all types of body work. The unit can also be used as a portable press. G. A. C. Mfg. Co., Ashland, Ohio.

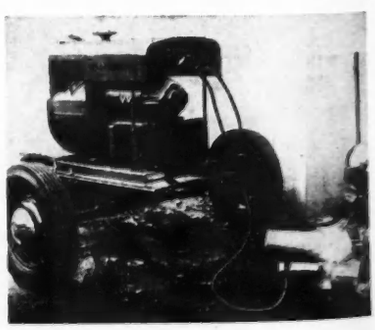
T24. Drying Oven

Auto-Bake, a new infra-red mobile paint-drying oven for body paint jobs, can be used for drying either lacquers or enamels but is intended primarily for use on synthetic enamels which are very slow in air drying. Permits a faster turnover of refinish work and makes possible a dust-free finish.

Designed to produce instant heat with no wait, Auto-Bake is of rigid light-weight construction and has push button control, automatic stop and lamp shut-off, and a variable speed drive. New oven occupies a small amount of floor space, and requires a minimum of maintenance for its operation. It is shipped completely assembled. Oven contains 120 internal reflector infra-red heat lamps and is wired for 220 volt, 3 phase, 60 cycle operation. Other voltages can be quoted on request. Kellogg Div., American Brake Shoe Co., New York, N. Y.

T25. Light-weight Welder

Light-weight, engine-driven, dc welder, designed for a wide range of general applications, weighing 660 lb. for a maximum of 250 amperes of welding current. Powered by a Wisconsin VF-4 air-cooled engine, speed-ratio-coupled by a steel-core V-belt drive to a G-E type WD-3200 generator with 50 per cent duty cycle. A fully calibrated dual control permits the accurate setting of a desired welding current before the arc is struck.



Welder has a built-in auxiliary power outlet of 110 volts for the operation of lights and power tools, and stands on a full-length, rigid, welded steel base. Overall length is 44⅛ in., it is 24½ in. wide and 35⅜ in. high. General Electric Co., Schenectady, N. Y.

(TURN TO PAGE 200, PLEASE)

in Service Industries*..

* **SERVICE INDUSTRIES:** *Truck fleets of bakeries, florists, fuel dealers, contractors, dairies, department stores, utilities, laundries, grocers, local manufacturers, etc.*

Raybestos

AMERICA'S BIGGEST SELLING BRAKE LINING

RAYBESTOS-MANHATTAN, INC.

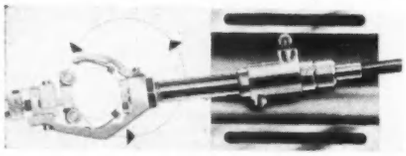
PG *Proving Ground Tested* **BRAKE LINING • BRAKE BLOCKS • CLUTCH FACINGS • FAN BELTS • HOSE for CARS, TRUCKS, BUSES and TRACTORS**

Shop Tools and Equipment

(Continued from Page 196)

T26. Crankshaft Grinder

Portable crankshaft grinder for grinding crankshafts in in-line engines without removing the shaft. Machine works from top of block and reaches all throws.



Handles full range of crankpins up to 2½ in. in diameter and 1⅝ in. wide. Grinding unit has a ¾-hp motor with flexible shaft drive to grinding wheel. Crankshaft revolving unit has a motor, reduction gear and belt drive through fan belt pulleys. Four wheel cradle and two loaded bronze shoes serve as bearing surfaces and travel around the throw, assuring proper alignment with throw. Machine is simple to set up and adjust. Waterbury Tool, Div. of Vickers, Inc., Waterbury, Conn.

WHO SAID
mirror replacement could not be reduced . . .

DO IT WITH DELBAR!

If you are seeking ways to lower mirror replacement costs, you will welcome these features for saving offered thru the use of Delbar Mirrors.

RE-POSITIONING—after a Delbar Mirror has been swung up for clearance it can be lowered and will return to exact original setting.

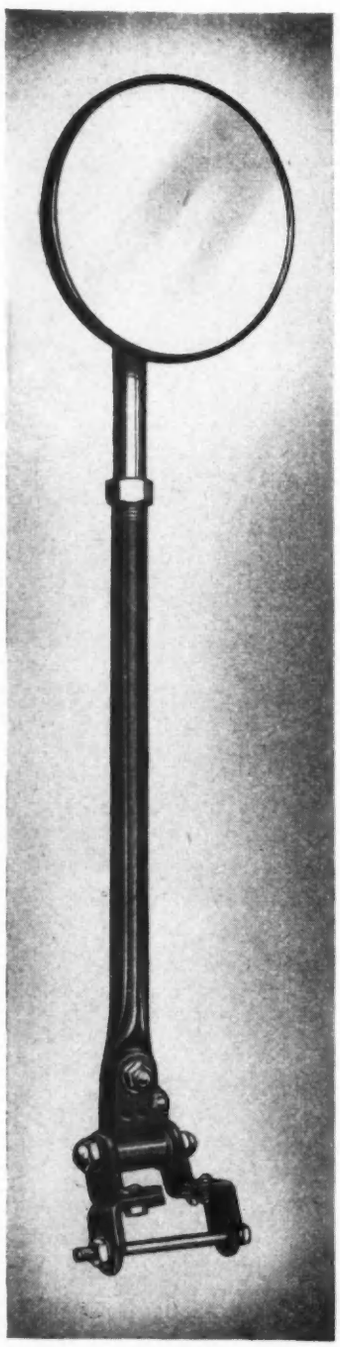
VIBRATION-PROOF—heavy mounting brackets minimize vibration at the most critical point.

SHOCK-CUSHIONED—available with rubber mirror rim.

ADJUSTABLE—one model fits any hinge from 1¼" to 4", or body mounting.

Write for prices and details as the first step toward reducing your mirror replacement costs. DELBAR PRODUCTS, Inc., Perkasie, Pa.

DELBAR



● MIRRORS · MARKER LIGHTS · TAIL LIGHTS, etc.

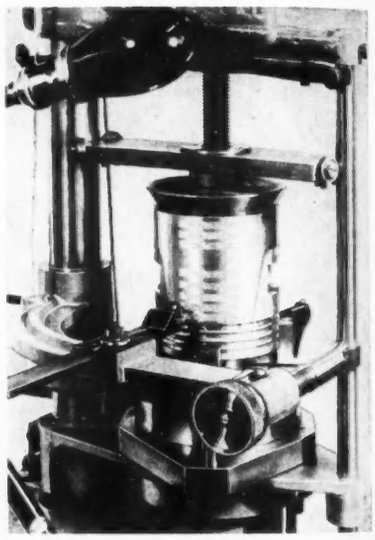
T27. Arc Welder

Model 100B Portable Electric Welder delivers a smooth flow of welding current at all 16 heat ranges from 20 to 100 amperes. Handles from 1/16 to ⅛-in.

welding rods. Features spun glass insulated transformer, vernier-type arc control and positive quick-starting arcs. Welder is portable and fully equipped for light welding jobs. Other models larger available. Trindl Products, Ltd., Chicago, Ill.

T28. Piston Knurler

Electrically-operated Micro-Knurler will knurl heavy-duty pistons in about 2 min. each. Handles all types and sizes of pistons by means of a universal chuck which locks the piston in place from the outside.



Micro-Knurling increases the diameter of the piston by raising metal on the major and minor thrust surfaces of the piston skirts. The process is said to eliminate piston-slap, provide added wall lubrication because of the knurled area and increase the life of the piston as well as the rings and cylinder walls. Hastings Mfg. Co., Hastings, Mich.

T29. Plastic Drifts

Plastic Drift for work where it is desired to avoid marking or damaging finished parts. Also useful for driving out grease retainers and bearings. Six in. in length and in three different sizes: CD 4, ¾ in. od; CD6, ⅞ in. od; CD8, 1 in. od. The Bonney Forge and Tool Works, Allentown, Pa.

(TURN TO PAGE 202, PLEASE)

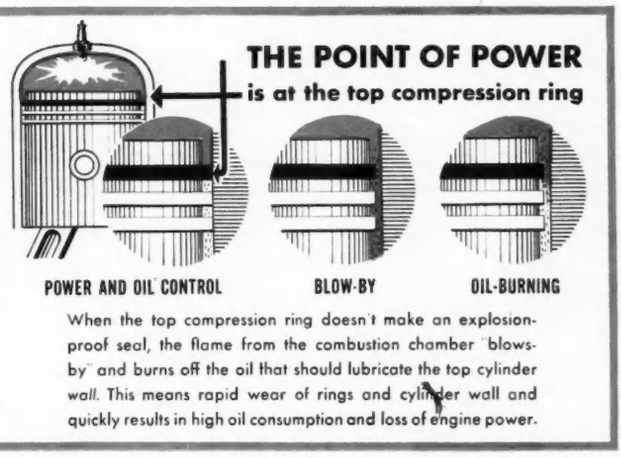
$1,000.00 FOR A PISTON RING NAME!

With the development of K-SPUN, *the Miracle Metal for Piston Rings*, Koppers' engineers and metallurgists turned the piston ring business upside down! Now we'll pay $1000 for a name for the revolutionary American Hammered Piston Ring Set engineered around a top compression ring made of the new miracle metal.

For years, automotive engineers have known that the top compression ring in any internal combustion engine did 85% of the job. But they knew, also that the all-important top compression ring rapidly lost most of its effectiveness because no metal had yet been developed with "guts" enough to give long service in today's high-speed, high-compression engines. *No oil ring has ever been designed that can do the job of the top compression ring.*

Koppers engineering solved the problem with an entirely new piston ring metal. K-SPUN, the new miracle metal for compression rings, is the key to piston ring sets that establish new standards of performance. Top compression rings made of K-SPUN do everything a compression ring *should do* . . . and *retain their full effectiveness over an amazing period.* In its early stages of development, K-SPUN helped to increase by five times the flying hours between engine overhauls in Allied war planes. Soon it was even further improved and the revolutionary American Hammered Set has already established new records in the toughest kind of fleet service. Now, piston ring sets engineered around compression rings of K-SPUN are available for most cars, trucks, buses, tractors, marine and aviation engines, stationary engines. . . for gas or Diesel service.

Study the chart and consider the outstanding advantages of K-SPUN compression rings, the heart of the revolutionary American Hammered Piston Ring Set. Then, get to work on that *thousand dollar name!*



When the top compression ring doesn't make an explosion-proof seal, the flame from the combustion chamber 'blows-by' and burns off the oil that should lubricate the top cylinder wall. This means rapid wear of rings and cylinder wall and quickly results in high oil consumption and loss of engine power.

THE AMERICAN HAMMERED KOPPERS K-SPUN COMPRESSION RING...
Won't break during installation or in service . . . 50% more "spring" quality; four times the resistance to combustion shock.

Keeps flame *in* the combustion chamber . . . keeps oil *out* of it!

Permits high unit pressures—that stay put!

Proved in thousands of hours of wartime flying and in millions of miles of tough fleet service.

The first really effective compression ring for today's high-speed, high-compression engines.

We want *you* to name our revolutionary piston ring set. ACT NOW! Nothing to buy . . . no entrance fees to pay . . . no special forms to be filled out. *Just follow these simple rules:*

1. The name you suggest should describe the complete set. Something like "Ful-Power"—but you can do better than that!
2. No limit to the number of names you may submit.
3. Any person residing in the continental United States may submit entries—except employees and the families of employees of Koppers Company, Inc., and its advertising agencies.
4. In case of duplication of winning name, duplicate prizes will be awarded.
5. No entries can be returned, and all entries become the sole property of Koppers Company, Inc.
6. Entries must be postmarked not later than midnight, January 10, 1949.
7. The decision of the judges will be final.

1st prize	$1,000.00
2nd prize	500.00
3rd prize	100.00
50 prizes	5.00

Address entries to: "Name Contest," Drawer CCJ, Koppers Company, Inc., Piston Ring Department, Box 626, Baltimore 3, Maryland

KOPPERS

Shop Tools and Equipment

(Continued from Page 200)

T30. Universal Wrench

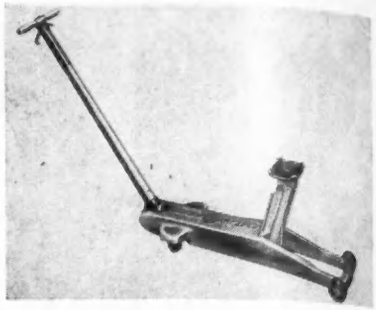
Universal Type Wrench has sockets and lugs so placed to fit all standard steel drum closures. Also has a steel lip for removing steel caps over drum closures. The wrench will fit male, female and hexagon drive closures, also closures driven by internal lugs; is made of cast steel, cadmium plated to prevent sparking. List price $3.00 each. Weight 2½ lb. Aero Tool Co., Los Angeles, Cal.

T31. Battery Cable

Automotive wire and cable for both original and replacement use. The Steelductor ignition set utilizing 7 strands of stainless steel instead of the conventional 19 strands of copper. The Electric Auto Lite Co., Toledo, Ohio.

T32. 4-Ton Floor Jack

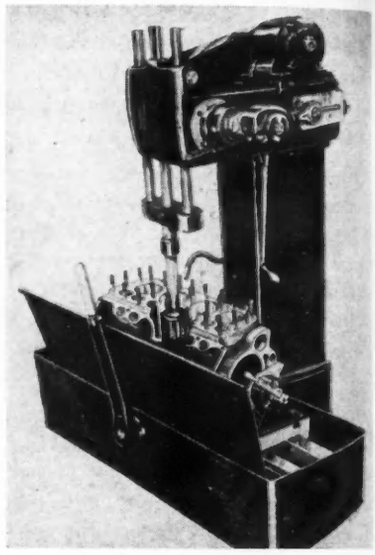
The 4-ton hydraulic jack features all-steel, one-piece cast steel frame finger tip



control for quick, easy lowering or positioning, fast raising mechanism, ball bearing casters and an improved ram said to be free from rusting and corrosion. Manley Mfg. Div., American Chain and Cable Co., Inc., York, Pa.

T33. Automatic Wet Hone

No. 200 Automatic Wet Hone will produce any specified micro-finish by high-precision wet honing, and will duplicate the cylinder-wall finishes of engines on the



factory production line. Designed for precision wet honing of cylinders up to 6 in. diameter. Stroke is adjustable from zero to 18 in., and is operated by a mechanical crank. Fixtures are available to hold various makes of blocks for ready positioning. Machine is 7 ft high, and measures 5 by 4 ft at the base. Features include 3 hp motor, individual pump, semi-automatic indexing, and manual control for short stroking when desired. Larger models are also available. The Van Norman Co., Springfield, Mass.

T34. Portable Elevator

Montgomery type "C" Portable Elevator, a light-duty, hand-operated production unit now available. Other sizes and types, both hand and electrically operated, are available to required specifications. Montgomery & Co., Inc., New York, N. Y.

T35. Commutator Dresser

The Rite Tool for quick, easy truing and undercutting commutators. Simple to operate. Rite Tool, Inc., Fall River, Mass.

(TURN TO PAGE 204, PLEASE)

You can't get a HOT SPARK from the WRONG COIL!

IC-55 CURRENT BALLAST COIL
ECHLIN also makes a full line of conventional types and waterproof Coils.

Here are the outstanding features of operating efficiency and economy delivered by ECHLIN Current Ballast Coils—

MAXIMUM CONTACT LIFE—Because of low current draw.

EASIER STARTING—Current ballast assures high output even when starter reduces voltage.

HIGH OUTPUT—Special winding construction gives higher voltage and hotter spark required to offset diminishing efficiency in aging ignition systems.

CONTINUOUS HIGH OUTPUT—Hot coils lose efficiency. Exclusive heat dissipator keeps Current Ballast Coils cool.

ECHLIN CURRENT BALLAST COILS have been recognized for years as the world's finest. The supply situation is not easy, but improving, so give your vehicles the benefit of their outstanding advantages.

NAPA

ECHLIN Ignition

CONTACTS
COILS · CONDENSERS
& OTHER AUTOMOTIVE
ELECTRICAL PARTS

ECHLIN MANUFACTURING COMPANY
234 EAST STREET • NEW HAVEN 5, CONN.

how long—and how safe—between brake adjustments?

"friction-engineered"

axle sets combine the greatest service life and safety!

Whatever your equipment, American Brakeblok axle sets are the answer to lower braking costs and greater braking safety. Each set is "friction-engineered" for a *specific* make, model and braking system. It provides the exact frictional and wear characteristics your truck requires. It wears longer—treats drums more gently—provides surer stops—reduces brake maintenance.

Give your American Brakeblok jobber complete information on your vehicles and their braking systems. He will supply you promptly with the "friction-engineered" axle sets you need to *save* on braking costs—with *safety!*

3 Series—for every braking system

"REGULAR": An all-purpose lining recommended for mechanical and hydraulic brakes. Available in rolls and axle sets.

"1,000": Engineered primarily for longer life with powerful vacuum booster systems. Also for air brakes where there is need for faster brake action than is provided by "2,000" Series. Axle sets only.

"2,000": Designed to provide maximum mileage and efficiency under extreme conditions with air brakes or powerful vacuum systems. Axle sets only.

"C" Series: Thick blocks for air brakes or powerful vacuum systems.

American Brakeblok is distributed through 39 NAPA Warehouses, assisting jobbers everywhere to give prompt, complete service.

American Brakeblok REG. U.S. PAT. OFF.

BRAKE LINING

AMERICAN Brake Shoe COMPANY

AMERICAN BRAKEBLOK DIVISION
DETROIT 9 MICHIGAN

Shop Tools and Equipment

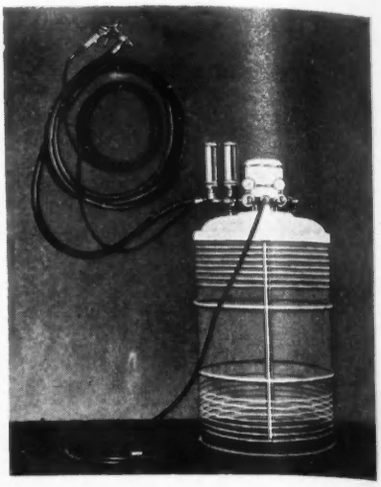
(Continued from Page 202)

T36. Power Crane

A self-contained Marquette Power Crane, model 141 N. to fit all trucks. Three hp gas engine furnishess the built-in power. Full swivel boom head permits pulling load from any angle. Maxi-Torq Clutch is floating disc type that operates with fingertip control. Marquette Mfg. Co., Minneapolis, Minn.

T37. Underbody Coater

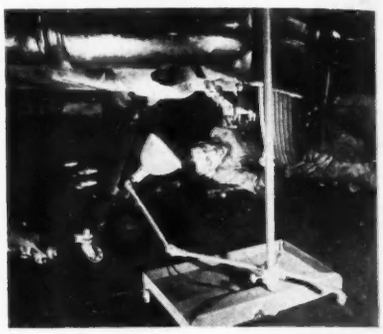
Underbody coater, Model 2803, offers a drum cover type pumping unit, all necessary material and air hose and a spray gun. Pumps direct from full-opening 55-gal. drums. Simple, accurate control of air pressure to pump and working pressure at spray gun supplied by means of two air regulators and two air pressure gages. The



gun will handle all undercoating materials. Trigger-operated and light in weight. The Aro Equipment Corp., Bryan, Ohio.

T38. Portable Light

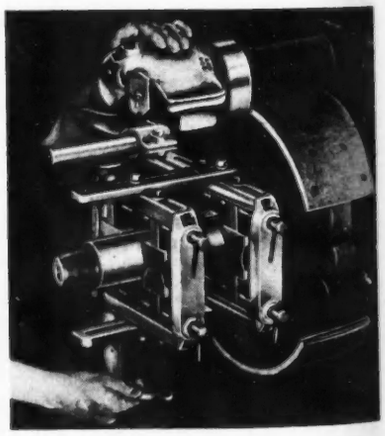
Portable lighting equipment accommodating a 375 watt infrared lamp, in addition to illuminating lamps. Infrared lamp permits spot heating, involving frozen



shackles, fuel pumps; expansion of parts to secure shrink fit; thining of sludge and heavy oil to permit draining etc. The Fostoria Pressed Steel Corp., Fostoria, Ohio.

T39. Brake Shoe Grinder

Model 45A portable brake shoe grinder handling large truck and trailer shoes up to 8 in. in width, as well as passenger car



shoes down to 9 in. in diameter. Other models and sizes available. Shepard-Thomason Co., Los Angeles, Cal.

(TURN TO PAGE 206, PLEASE)

THE

BIEDERMAN

TRUCK

An All-Star Truck

Constructed of All-Star Units

Doing an All-Star Job Since 1920

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself. Nothing but the most sturdily constructed units by America's leading manufacturers are built into it. It has strength, durability, comfort for the long drive, accessibility of every part and modern design.

There is still some territory open. This is your opportunity to secure the Sales Franchise of a quality product. Write or wire us today for complete specifications and details.

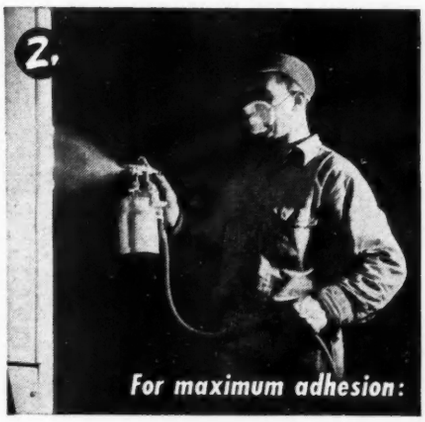
BIEDERMAN MOTORS CORPORATION

CINCINNATI 14, OHIO

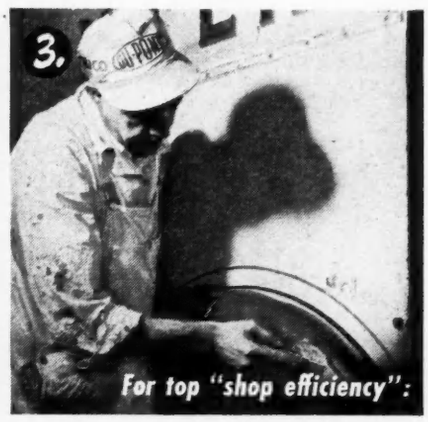
DU PONT DULUX POINTS THE WAY TO BETTER REFINISH JOBS

REG. U. S. PAT. OFF.

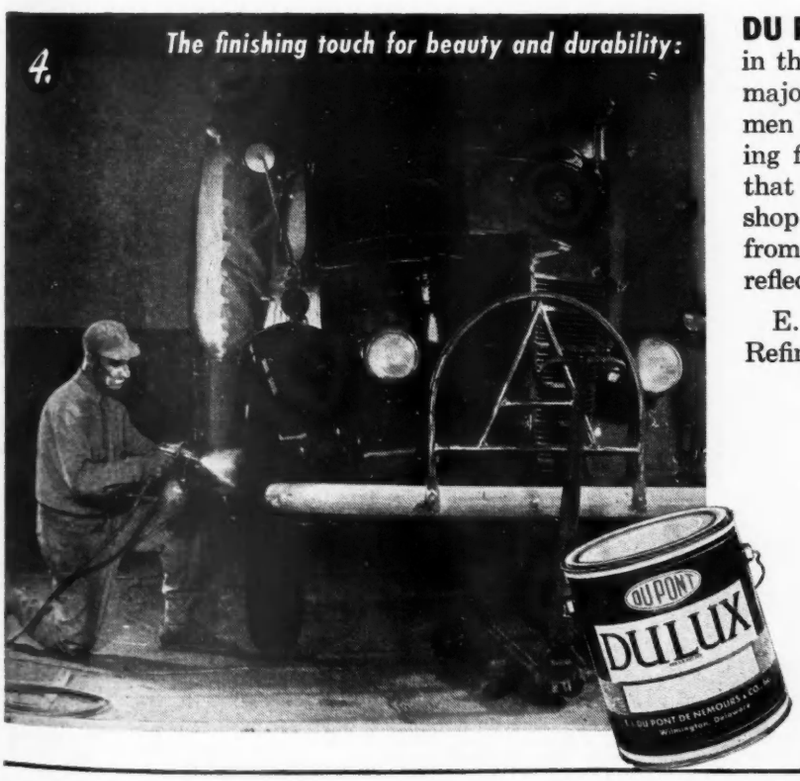
DU PONT PREP-SOL— Prep-Sol starts the job *right!* It slightly softens up the old finish . . . removes grease, tar and traffic film quickly . . . prevents sanding of foreign matter into the old finish . . . promotes good adhesion of the new finish. Use Prep-Sol for faster, easier surface preparation on all refinishing jobs.



DU PONT PREPARAKOTE — Here's a primer that goes on easily, dries fast . . . and *stays put!* It's specially formulated to work *with* DULUX in creating better refinish jobs. Preparakote *speeds* work; no need to wait for it to "flash" between coats... and it's ready for final sanding in four hours.



"DULUX" PUTTIES & THINNERS—Use the best *with* the best . . . specify DULUX all the way! DULUX Putties, Glazing and Hard, do a top-notch job. DULUX Thinners, too, are reliable . . . help move work along. VARI-TEMP Thinner, for example, can help you avoid a "slow" shop on cold, damp or hot, muggy days.



DU PONT "DULUX"—*Proved superiority...* in the shop and on the road! For years, the majority of fleet operators and maintenance men have chosen DULUX...for better-looking fleets . . . for day-in, day-out durability that keeps trucks and buses out of the paint shop longer. Do the job the DULUX way . . . from start to finish . . . and help your fleet reflect your sound management!

E. I. du Pont de Nemours & Co. (Inc.), Refinish Sales, Wilmington 98, Delaware.

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

DULUX

REG. U. S. PAT. OFF.

Enamel

Shop Tools and Equipment

(Continued from Page 204)

T40. Sander-Polisher

Portable Electric Sander-Polisher offered with 21 accessories that quickly change it to a grinder, a drill, a steel wooler, a buffer or a wire brush.

Specifications are as follows: motor—115 volt, ac-dc; disc speed, free—5000 rpm—normal load—3000 rpm; weight, net—4 lb. Clarke Sanding Machine Co., Muskegon, Mich.

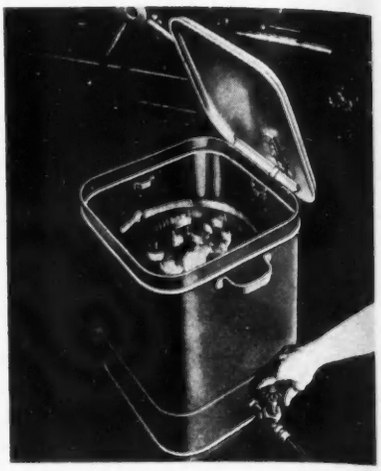
T41. System Cleaner

Brady cooling system cleaner for removing rust and scale, as well as grease from both radiator and engine block. Circulated in solution under light pressure, the chemicals combine a foaming and wetting agent with a mild acid. The agent is stable in the presence of the acid.

The universal pressure cap is fitted over the radiator filling spout and connected by two hose lines to the unit which is connected to a water tap and an electrical outlet. F. E. Brady Products, Inc., Muncie, Ind.

T42. Parts Washer

In the "Air-Matic" parts washer washing is achieved by moving perforated basket, with contents, up and down through solvent. Engineered to produce least possible



turbulence and permit greatest flow of liquids over the parts. Power is supplied by a reciprocating air engine which will operate on any compressed air supply. The Protectoseal Co., Chicago, Ill.

T43. Hydraulic Crane

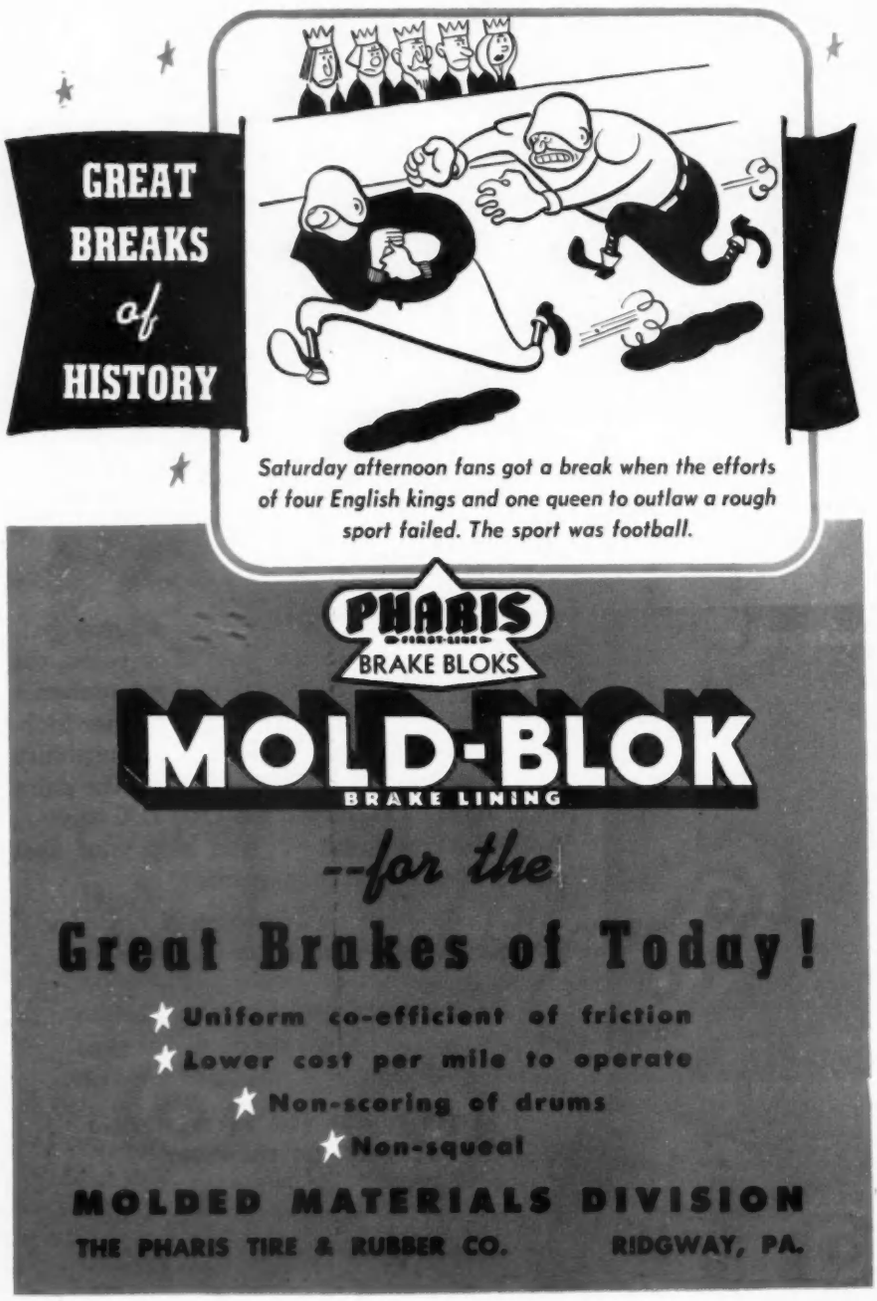
The 1-ton hydraulic floor crane Model HP-18, for speeding repair jobs and saving time in lifting and transporting heavy parts. Crane is 73½ in. high, 32½ in. wide,

with a boom travel of 71¼ in. Extension boom can be used to provide a travel of as much as 118½ in. Ruger Equipment Co., Cleveland, Ohio.

T44. Auto Polisher

Skil Auto Polisher features tail-type and rear-grip handles with rubber sleeves to eliminate scratching vehicle finish. Die cast alloy aluminum body designed for light weight and for appearance. Forced, straight-line ventilation cools oversize motor. Skilsaw, Inc., Chicago, Ill.

(TURN TO PAGE 208, PLEASE)


GREAT
BREAKS
of
HISTORY
Saturday afternoon fans got a break when the efforts of four English kings and one queen to outlaw a rough sport failed. The sport was football.
PHARIS
BRAKE BLOKS
MOLD-BLOK
BRAKE LINING
--for the
Great Brakes of Today!
★ Uniform co-efficient of friction
★ Lower cost per mile to operate
★ Non-scoring of drums
★ Non-squeal
MOLDED MATERIALS DIVISION
THE PHARIS TIRE & RUBBER CO. RIDGWAY, PA.

What's in a NAME...?

HANSEN

Farrell — BUILT FIRST TO LAST

SUPERIOR

INTERNATIONAL

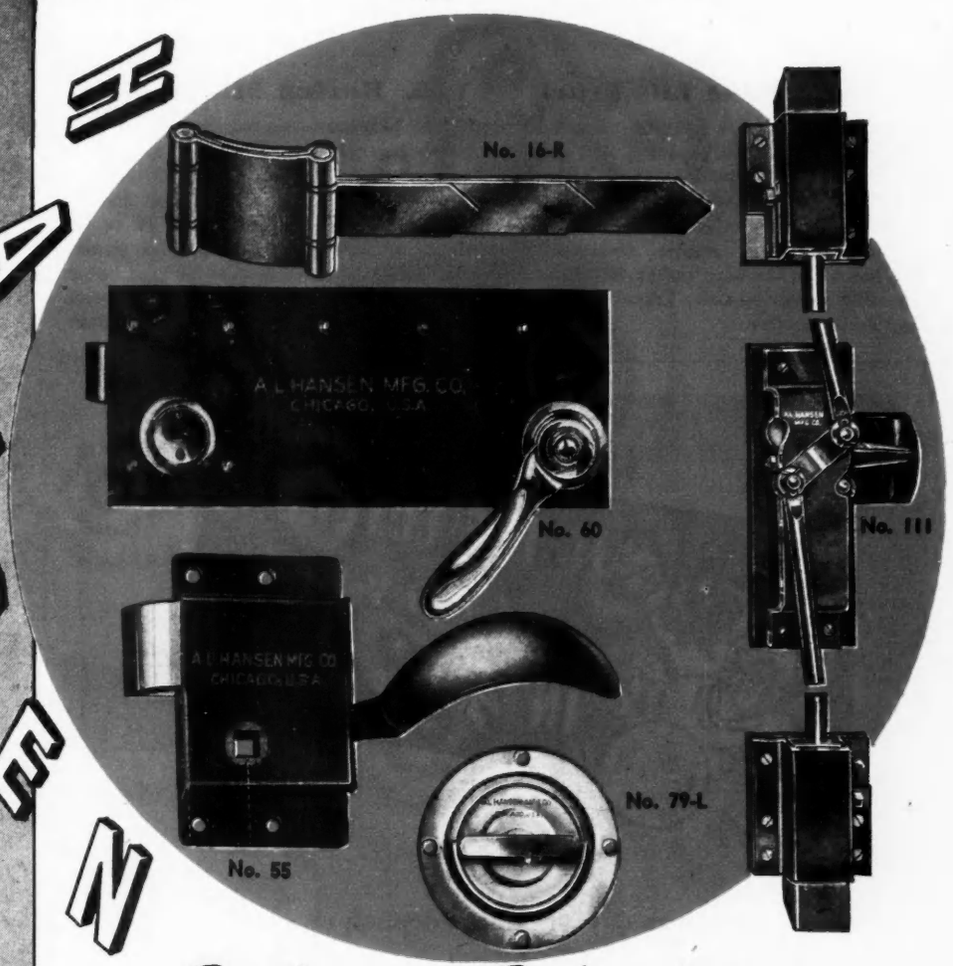
WENTWIN PRODUCTS MANUFACTURERS

TRAILMOBILE

HYDRAULIC WOOD

HEIL

HANSEN — HARDWARE for Commercial Bodies



Built into Bodies Means—

STURDINESS...DEPENDABILITY...DURABILITY

No. 16-R Round-Corner Hinge. Permits end-door to swing parallel with body side. Rounded butt fits flush.

No. 55 Cab Lock. Flange on face permits installation without mortising.

No. 60 Extension Lock. One-piece construction, including inside handle.

No. 79-L Flush Handle. Fits into metal or wood doors with no projections to catch.

No. 111 Heavy-Duty Door Lock. Anti-rattle action. Choice of latch combinations.

IN the panel at left are a lot of familiar names. They are well-known because they have consistently provided fine merchandise over a period of years. They indicate quality, performance, prestige, widespread approval.

The manufacturers named here are all enthusiastic users of Hansen body hardware. This is the most impressive endorsement of Hansen hardware that could possibly be obtained. These builders, in installing Hansen hinges, locks, handle, and window regulators on their own products, are entrusting a part of their good reputation to Hansen. Their continued use of Hansen signifies approval.

Hansen invites you to join this group of names as users. For you to do so is to accept a guarantee of the very best in commercial body hardware. Write for complete information on the Hansen line.

HANSEN

5047 RAVENSWOOD AVE.... CHICAGO 40, ILL.

Shop Tools and Equipment

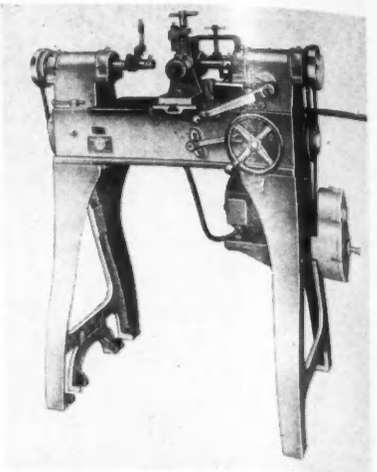
(Continued from Page 206)

T45. Gasoline Lift Truck

A gasoline powered fork lift truck with 1000 and 2000 lb lift capacity, full pneumatic tires and all welded one piece body frame construction of heavy gage steel stampings. Four cylinder water cooled fabricated "Cobra" engine develops 26 hp; has 61 in. turning radius for maneuverability in narrow-aisle. Transitier Truck Co., Portland, Ore.

T46. Boring Machine

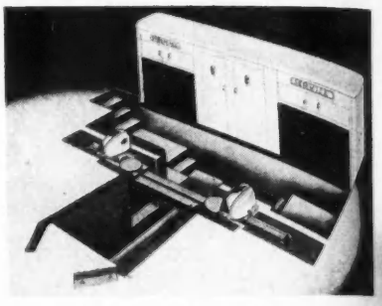
The twin-head con-rod boring machine for boring, refacing and cutting oil grooves without changing tools or recentering rod. Machine has a capacity of 1½ to 3½ in. in diameter, 5¼ in. wide and 24 in. in length. A 1/3-hp motor supplies power. Available with machine are 18 high speed cutting tools, micrometer, 2 micrometer frames only with plug gage, boring fixture



for shell bearings, wrenches and stone. Waterbury Tool, Div. of Vickers, Inc., Waterbury, Conn.

T47. Wheel Aligner

Model 240 Visualiner wheel aligning equipment for both cars and trucks. Movable head bases are adjustable for



tread width from 48 to 90 in. Space required is 17 ft in width, 11 ft seven in. long. John Bean Div., Food Machinery Corp., Lansing, Mich.

T48. Paint Spray Gun

Medium-priced, light weight spray equipment specifically designed for use by painters operating with a limited air supply. Model B-6900 Spray Gun by a simple

change of head set-ups, can be made to operate with equal efficiency on compressors ranging from 1/3 to 1½ hp. Will handle all types of material. Weight, 1 lb. Black Mfg. Co., Baltimore, Md.

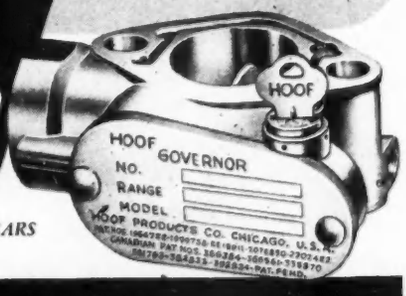
(TURN TO PAGE 212, PLEASE)

The life span of your vehicles depends on the care given to them. When your operators are miles from the home office, how can you be sure that they are giving your equipment the proper care?

Hoof Governors are the answer. A Hoof Governor on each vehicle is absolute insurance against excessive speeds. A Hoof Governor is your manager on the road.

Speed control means cost control and extra profit for you. Increase lifetime mileage and profits by installing Hoof Governors on your vehicles.

HOOF *key and seal type* GOVERNORS



NEW! HOOF ALUMINUM-STEEL TIMING GEARS Matched Sets for Chevrolet and Ford V-8'

HOOF PRODUCTS CO., 6543 S. Laramie Ave., Chicago 38, Ill.

Mechanical Axle Jacks
Heavy duty thrust bearings and exclusive needle-bearing mounted pinions reduce lifting effort to a minimum.
Hydraulic Axle Jacks
With exclusive patented base for "self-aligning" of load. Made in 5 sizes.
Hydraulic Bumper Jacks
Ideal for passenger cars. Has broad, firm base and adjustable bumper-grip load rest with a chain hook.
Steel Horses
Easily adjusted to proper height; have firm, sturdy, safe base.
Mechanical Bumper Jacks
Entirely NEW patented Friction Bumper Jack, equipped with exclusive AUSCO automatic full control release.
Ratchet Bumper Jacks
Ratchet mechanism finely machined of high quality steel. Broad base.

..it's GUARANTEED

Every AUSCO Resource Is Back of Every AUSCO JACK!

And beyond that, AUSCO's nation wide Service Organization is always at your beck and call . . . AUSCO's 32-year-old policy for honest dealings assures you of happy user-customer-factory relations . . . and AUSCO's dependable, clear-cut Distribution Policy brings you prompt and diligent service.

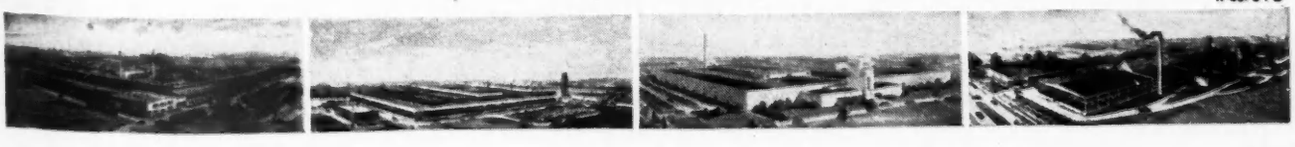
Wherever you buy YOUR AUSCO JACKS, you can be confident that we stand squarely behind every one with an iron-clad product warranty.

AUTO SPECIALTIES MANUFACTURING COMPANY
ST. JOSEPH, BENTON HARBOR, and HARTFORD, MICHIGAN • • • WINDSOR, ONTARIO, CANADA

AUSCO Jacks

. . . ALL FULLY COVERED BY PATENTS!

R-2875-FO



Shop Tools and Equipment

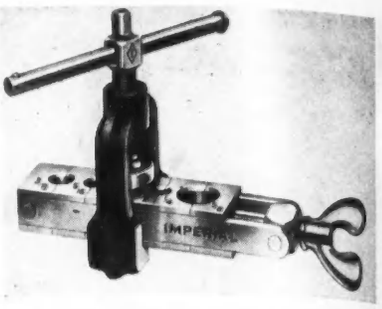
(Continued from Page 208)

T49. 2000-lb. Fork Truck

Type FRH-20 Center Control Fork Truck with a 43-in. wheelbase, a 30-in. width and an overall length exclusive of forks of 63 in. Right turning requires 76½ in. plus length of load. Light weight —3850 lb.—permits its use on floors having limited capacity, on low capacity elevators and in highway truck loading. Standard battery equipment rated at 36 volts and 250 ampere hours—sufficient for 10 to 12 hours service under average operating conditions. Battery is recharged by automatic equipment requiring no attendance. The Baker-Raulang Co., Cleveland, Ohio.

T50. Flaring Tool

Faster operation, better flares, greater compactness and elimination of scoring



of the tubing are among the advantages listed for the new Hi-Duty tool for flaring soft copper, brass and aluminum tubing for S.A.E. flare joints in ¼, 5/16, ⅜, ½ and ⅝ in. o.d. sizes. Imperial Brass Mfg. Co., Chicago, Ill.

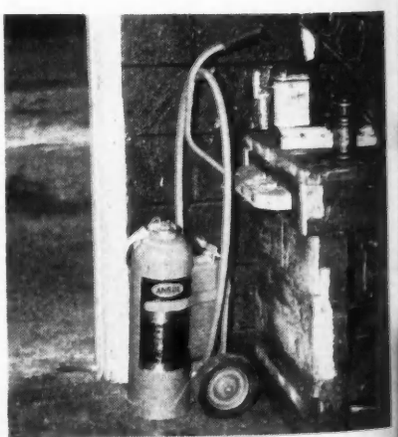
T51. Air Hammer Kit

The Bantam Bully hammer offered in combination with a practical selection of working tools including nine tools and

chisels for a variety of shop jobs. Tool delivers 13,000 blows per minute for automotive work where a hammer or chisel is used. Metering trigger regulates power from a feathering stroke to a full strength blow. Superior Mfg. Co., Cleveland, Ohio.

T52. Pullmobile

Ansul Pullmobile, designed to carry an Ansul 30 Extinguisher to the scene of a fire. Each extinguisher has 6 ft of rubber hose to allow operation without removing



it from the two-wheeled cart. Particularly suitable for the protection of large garages. Ansul Chemical Co., Marinette, Wis.

(TURN TO PAGE 216, PLEASE)

You get more with Neapco . . .

MORE COVERAGE . . . Neapco services more than 90% of America's cars and trucks.

MORE DEPENDABILITY . . . Neapco has been manufacturing quality universal joints for more than 25 years. This experience, plus the most modern manufacturing facilities, assures you dependable replacements—unequivocally guaranteed.

MORE SATISFACTION . . . Neapco engineered parts fit properly and are designed to last longer—save your time and make satisfied customers.

BE SURE . . . Get more with Neapco. At your Neapco Jobber's. New England Auto Products Corp., Pottstown, Pa.

AMERICA'S MOST COMPLETE INDEPENDENT LINE OF UNIVERSAL JOINTS & PARTS

NEAPCO

ENGINES NEED COMPLETE PROTECTION!

Lubrication

WITH THE OIL THAT GIVES ALL 4 BENEFITS OF A COMPLETE TRUCK-BUS OIL—

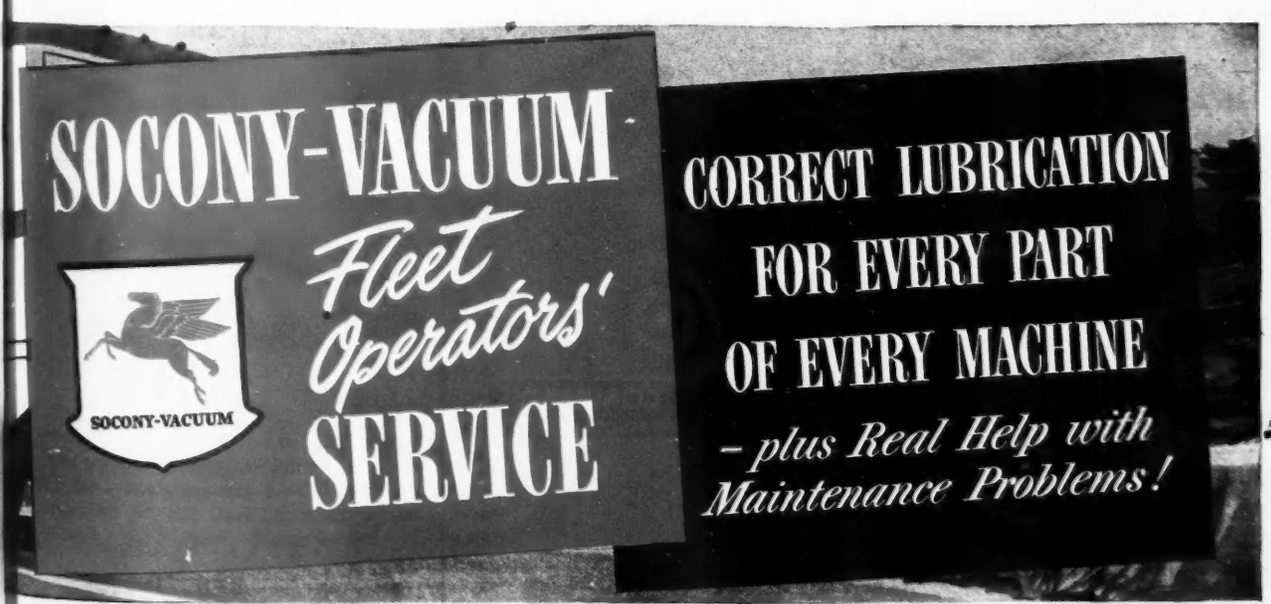
DELVAC OIL!

ENGINE OILS TODAY have a lot tougher job than ever before. But Delvac Oils answer *all* the lubrication needs of even the most modern engines.

These exceptionally stable oils help keep engines cleaner. They fight oxidation... protect hard-alloy bearings against corrosion... resist foaming and excessive thinning under heat. And their tough lubricating film retards wear... gives truck-bus engines long-lasting protection.

Fleet records show that Delvac Oils help cut repair costs and maintenance expense. And your Socony-Vacuum Representative can make available to you a tailor-made Fleet Operators' Service that will help you solve *any* tough lubrication or maintenance problem.

GET THE COMPLETE OIL and the COMPLETE FLEET SERVICE!

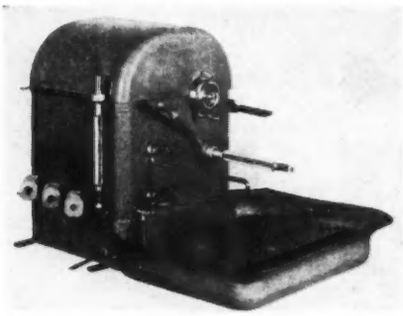

SOCONY-VACUUM
Fleet Operators' SERVICE
SOCONY-VACUUM
CORRECT LUBRICATION FOR EVERY PART OF EVERY MACHINE
– plus Real Help with Maintenance Problems!

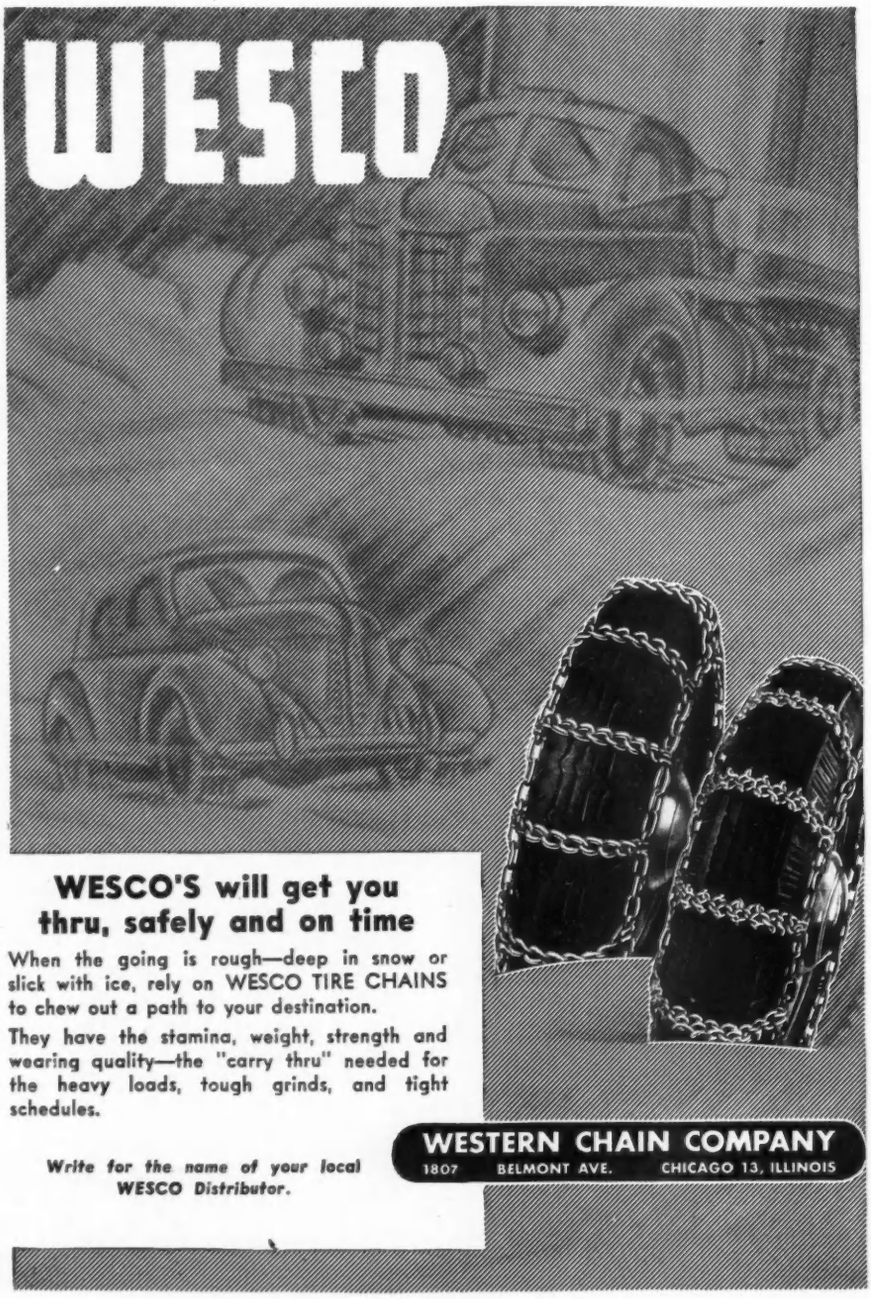
Shop Tools and Equipment

(Continued from Page 212)

T53. Wet Hone

Expandable wet hone and accessories sold under both the Lempco and the Evans trade name. Hone is a motor-driven horizontal stub shaft type with expandable mandrel. The honing stones are under a continual bath of cutting lubricant. The hone is specifically designed for finish-fitting of piston pins, spindle bolts, rocker arms, steering sector, wheel cylinder, master cylinder, etc. Lempco Products, Inc., Cleveland, Ohio.





WESCO'S will get you thru, safely and on time

When the going is rough—deep in snow or slick with ice, rely on WESCO TIRE CHAINS to chew out a path to your destination.

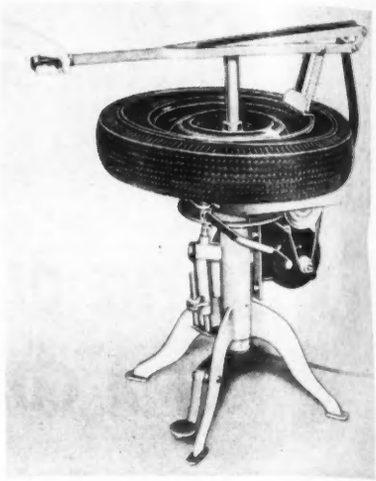
They have the stamina, weight, strength and wearing quality—the "carry thru" needed for the heavy loads, tough grinds, and tight schedules.

Write for the name of your local WESCO Distributor.

WESTERN CHAIN COMPANY
1807 BELMONT AVE. CHICAGO 13, ILLINOIS

T54. Tire Changer

No. 880, electric motor driven tire changer frees both beads and then slips tires off or on rims in speedy manner. A ¼ hp motor furnishes power. Foot pedal switch



enables operator to have hands free for handling tire and tube. A universal rim chuck automatically centers the rim and sets bead breaker. Changer will handle new wide rims for low pressure tires. Bishman Mfg. Co., Osseo, Minn.

T55. Infrared Dryer

Quick drying of enamel 15 to 20 minutes on touch-up work can be accomplished with this portable infrared equipment. The portable infrared unit (Model 62-248) illus-

trated can also be used for drying out wet electrical equipment and for thawing frozen radiators. Model accommodates 4 infrared lamps, ranging from 125 to 500 watts. Fostoria Pressed Steel Corp., Fostoria, Ohio.

END

(Please resume your reading on P. 65)

The New

PUROLATOR

WING-NUT *Micronic* OIL FILTER

Quick Check...

...Quick Change

No Tools...

The revolutionary design of the Purolator Wing-Nut Micronic Oil Filter makes inspection and element change a quick, easy, and clean job. Now the oil filter can be checked as frequently as the oil. No tools are needed . . . the Wing-Nut can be easily turned by hand. The dirty element comes out with the top . . . no need to touch it with the hands. The Purolator Wing-Nut Micronic Oil Filter has a built-in gasket . . . no need to replace it every time the element is changed.

Twenty-Five Years of Oil Filter Pioneering

PUROLATOR PRODUCTS, INC., NEWARK 2, NEW JERSEY, AND WINDSOR, ONTARIO, CANADA

Operating Economy

(Continued from Page 58)

E10. Engine Pre-Heater

An electrically-operated pre-heater tor warming up engines while they are at idle. Unit installed in cooling system becomes a by-pass to the circulation system. By controlled percolator-flow action is draws cold water from the engine into the head of the Hotstart, where it is heated and forced back into block. Power is furnished by an electrical outlet of 110 volt line. Kim Hotstart Mfg. Co., Spokane, Wash.

E11. Engine Cooling Fan

Thermostatically controlled and operating only at the time and speed required to cool the engine, the Eaton Dynamatic Fan is said to offer the following features: Improved gasoline mileage, increased power and acceleration, quieter engine operation, decreased crankcase dilution and sludge and accelerated engine warm-up. Eaton Products Co., Cleveland, Ohio.

E12. Fuel Filter

New type fuel filter with pulsation damper, and equipped with a new filtering element. Damper operates by means of a spring-supported Airtex diaphragm assembly which serves as a shock absorber in the fuel line. It reduces the pulsating flow of gasoline from the fuel pump to a smooth, steady stream at the carburetor to prevent excessive needle valve wear in carburetor, strain on the fuel pump and improve fuel pump valve action. Airtex Automotive Div., Chifford Master Mfg. Co., Ind., Fairfield, Ill.

E13. Trailer Lock

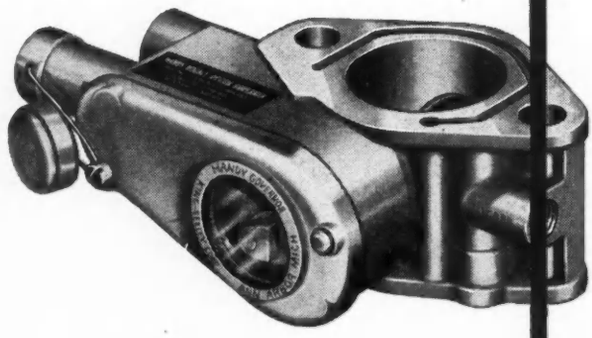
Designed to fit over trailer king pin so that tractor cannot be hitched to parked trailer until lock is removed with special key. Made of sturdy steel, lock is said to be hammer-proof and to offer smooth action in installing or removing. Trailer Lock & Body Co., Chicago, Ill.

E14. Wix Filters

Sturdy construction, precision design and high filtering capacity characterize the line of Wix Oil Filters. Domed cover and radially fluted base add to

strength, while a metering orifice in the seamless steel center tube maintains oil pressure. Easily installed, speedily serviced, each Wix Filter comes with a complete packaged kit containing all flexible lines and fittings for quick installation. Wix Accessories Corp., Gastonia, N. C.

(TURN TO PAGE 220, PLEASE)



This GOVERNOR

Anger, fatigue, grief, or joy—any one of these can temporarily transform a reasonably good truck driver into a serious traffic menace. This very thing has happened too often to ignore the danger of these human reactions.

The Handy Vari-Speed Governor, however, is not human, is never emotionally involved, but always comes to the assistance of the human driver who is. When your truck fleet is equipped with the Handy Governor, you have good reason to expect fewer accidents, and you will also save on tires, engine repairs, lubrication and brake maintenance.

The Handy Governor costs but a small fraction of what it will save you in its first year of operation.

HELPS KEEP the Emotional Driver OUT OF TROUBLE

KING-SEELEY CORPORATION
ANN ARBOR MICHIGAN

PLANTS IN ANN ARBOR • GRAND RAPIDS • YPSILANTI

Here's the Ticket for Getting Tools FAST!

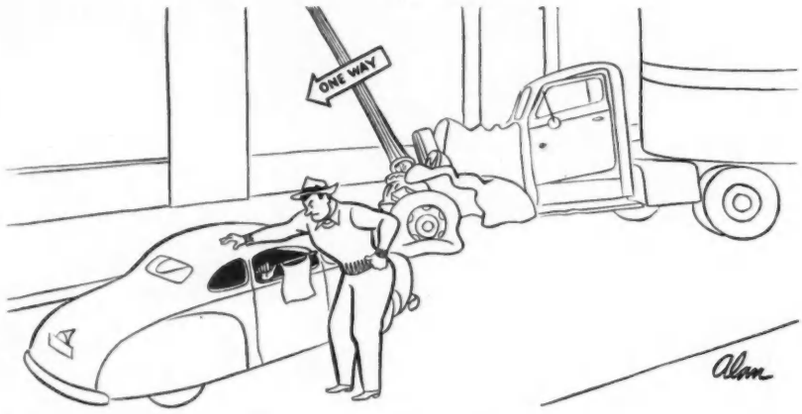
Yes, sir! Your New Britain Jobber is a fast man on delivery when your Tool needs arise! Just phone in your order! . . . you'll get the Tool you want quicker than you can say "New Britain"! You don't have to wait for shop-to-shop Tool canvassers. You don't have to hold up your work for lack of a Tool. Any and every New Britain-Hand Tool you ever need is no further away than a phone call to your automotive Jobber. So for today's job—get Tools TODAY!—order New Britain BY PHONE! The New Britain Machine Co., New Britain, Conn.

Here's your guide to the right Hand Tool for every job. 90 colorful pages! A complete Line! Look in your New Britain Catalog and phone your Jobber . . . that's all you do to get the Tool you need TODAY!

N·A·P·A
Assurance of Quality

New Britain

GREATER STRENGTH • BETTER FIT **HAND TOOLS**



STREAMLINED SERVICE

WITH JOYCE SHOPMASTER 2-POST LIFTS

Streamlined maintenance and repair service in your shop means more productive hours on the road for your mobile equipment. Speed your maintenance and repair operations by installing a Joyce Shopmaster 2-Post Lift in each mechanic's stall. Maximum accessibility to underparts of vehicle are provided by the superstructure design and strategic location of the lift posts. Completely flush-floor installation when lift is either up or down is available. Quick spotting of vehicles is made easy by self-centering front axle support and special rear axle support positioning rod.

Five Shopmaster 2-Post models can be furnished for passenger car and light truck use, either compressed air (150 p.s.i.) or electric operation. Wheelbase on all models range from 97" to 167".

Have top production from each mechanic in your shop! Install Joyce Shopmaster 2-Post Lifts.

WRITE FOR INFORMATION ON JOYCE SHOPMASTER AND BUS AND TRUCK LIFTS NOW!

IN CANADA: Midland Foundry & Machine Co., Ltd., Midland, Ont.

- SINGLE-POST AUTO LIFTS
- SHOPMASTER 2-POST LIFT
- BUS & TRUCK 2-POST LIFTS
- LIFTMASTER HYDRAULIC JACKS
- "FREE WHEELER" LUBE JACKS
- HOLD-A-CAR CHASSIS STANDS

THE JOYCE-CRIDLAND CO. • DAYTON 3, OHIO

Operating Economy

(Continued from Page 218)

E15. Mobile Radiophone

Two-way instant radio-telephone communication providing convenience and economy of dispatching and operating. Raytheon Radiophone offers compact

unit 5 x 6¾ x 15 in. Mounts in an out of the way place. Minimum battery drain required—18 amperes when transmitting; 15 amperes in a standy position. Belmont Radio Corp., Chicago, Ill.

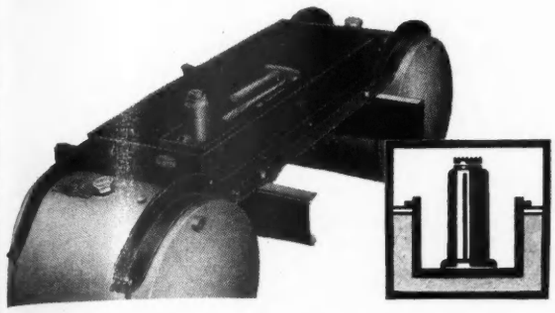
E16. Hoof Governor

Hoof Cantilever Spring Governor effect positive control of speed wi consequent savings in gas, oil, tires, re pairs, etc. Provide for full power, torque, and acceleration. There is no restriction of the effective area of gas

passage as compared to the carburetor and manifold opening. Obtainable either in the key or seal types and are available for every make of truck. Hoof Products Co., Chicago, Ill.

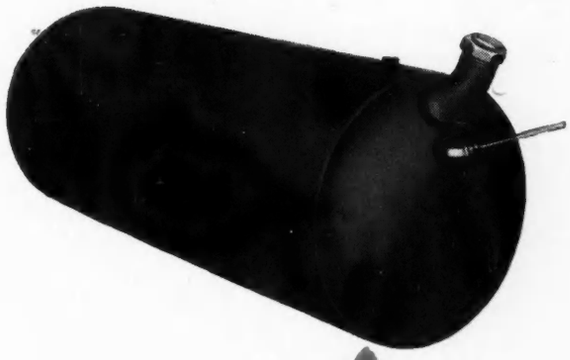
END

(Please resume your reading on P. 59



PRIOR SET showing position of hydraulic jack in tool chest jack well.

END-FILL CYLINDRICAL TANK for installation on any panel, stake or dump body truck. It can be mounted on side or under body. This tank is excellent for buses. End-fill neck is adjustable, permitting use on left or right side.



Safety Tanks TRIP COSTS!

PATENTED AND OTHER PATENTS PENDING.

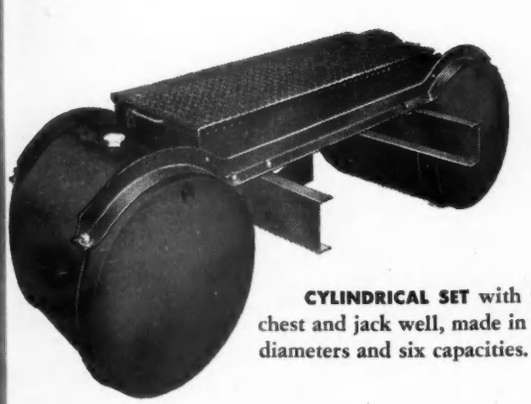
All Prior Safety Tanks have that simpler - than - ever installation — no holes to drill in the truck frame. They are rugged and built to give you long maintenance-free service. Prior Safety Tanks are made of 12-gauge steel electrically lap welded. Brace and anchor for pick-up line are welded in place. They are pickled, oiled and prime coated for rust resistance. All Prior Safety Tanks are guaranteed against defects in material and workmanship. They are pilfer-proof and safety fused to guard against explosion in case of an accident. A ball check in the vented filler cap prevents leakage of fuel should the truck be overturned. Prior Safety Tanks, of course, are Underwriters' Laboratory Re-Examination Service listed.

For truck tractors there are the especially designed and built popular Prior Sets. These in-great-demand Sets are safe, dependable, convenient and modern looking. They contain a handy, spacious tool chest with a jack well that keeps the hydraulic jack upright and out of the weather. The 4-way non-skid cover is standard with Prior. It can be locked securely and when closed serves as a catwalk for the operator. Sets are available in OB-Round or Cylindrical tanks.

There is a Prior Set, Pair or Single that will meet your requirements exactly. Just send in the coupon below for complete information and the name of your nearest distributor of PRIOR SAFETY TANKS.

PRIOR PRODUCTS, Inc.

Box 349, Middletown, Ohio • Box 7608, Dallas, Texas



CYLINDRICAL SET with tool chest and jack well, made in two diameters and six capacities.

MAIL TODAY TO NEAREST ADDRESS

PRIOR PRODUCTS, Inc. Box 349, Middletown, Ohio
Box 7608, Dallas, Texas

Please send me complete information on Prior Safety Tanks and the name of your nearest distributor.

NAME_____

STREET_____

CITY_____

STATE_____

Replacement Parts

(Continued from Page 68)

R17. Spark Plug

New Resistor Spark Plug utilizing a 10,000 ohm resistor. Wider gap setting offers economy, smooth idling and increased electrode life. Radio and television interference also is suppressed within specified limitations. The Electric Auto Lite Co., Toledo, Ohio.

R18. Body Repair Kit

"Celastic" and Gabriel Metalume for body and fender repairs. Kits consist of a colloid-treated fabric with high adhesive and hardening properties, and a plastic metal packaged in paste form. The latter dries to a metallic hardness, and like its companion will stick to almost any clean surface. Gabriel Co., Cleveland, Ohio.

R19. Stop Nut

Esna Elastic Stop Nut with built-in red elastic collar for use on any bolted connection where vibration, shock or impact tend to reduce or destroy the grip of an ordinary nut. Its positive locking action—on the bolt, not on the assembled parts—is independent of any auxiliary device, and it does not weaken, damage or distort bolt or assembled parts. Elastic Stop Nut Corp. of America, Union, N. J.

R20. Commercial Battery

New Goodrich Commercial Batteries providing extra power and extra stamina. Built to replace the lighter passenger-car type batteries now used by many truck operators. Transparent "Look-N-See" vent caps make it easy to service a battery. The words, "add water," appear when servicing is needed. They disappear when the battery is filled to a proper level. B. F. Goodrich Co., Akron, Ohio.

R21. Flexible Fittings

The Sealastic Vibration-Fatigue Proof Elastic fitting for use with metal tubing now offered in a special design to permit greater movement between two connected points. This improvement makes possible the replacement of flexible tubing installations with metal tubing.

Use of fittings with metal tubing provides insurance against fitting leakage and broken air, fuel and oil lines due to vibration. Marion H. Heustis, Chicago, Ill.

R22. Transmission Studs

Self-Threading Oversize Transmission stud with thread and designed to cut its own perfect thread. Fits Chevrolet 1934-36 and replaces the standard stud when threads are stripped or loose in the housing. Can be used as a standard replacement, stud or oversize stud. Made of hexagon heat-treated steel with increased pitched diameter for a stronger and tighter stud job. Champ-Items, Inc., St. Louis, Mo.

R23. Eaton Free Valve

The Eaton Free Valve turns in accordance with its natural tendency with a momentary release of spring load, with the result that valve life is increased to equal mileage between major overhaulings and fuel and power output are maintained at a new level. Valves are adaptable to all types of internal combustion engines and require no change in basic engine design. Eaton Products Co., Cleveland, Ohio.

R24. Shock Absorber

A line of Heavy-Duty Rotary Shock Absorbers suitable for installation on nearly all types of commercial vehicles. In addition to their contribution to riding comfort and a resultant lessening of the dangers which come from driver fatigue, they help protect pay load from damage, improve gasoline mileage, reduce tire wear, and guard body and chassis from damage caused by excessive side sway and jouncing. The Houdaille-Hershey Corp., Houde Engineering Div., Buffalo, N. Y.

END

(Please resume your reading on P. 69)

OUT OUR WAY

THIS ONE SAYS THAT IT'S JUST AS GOOD AS SOL-SPEEDI-DRI-- AND IT'S A QUARTER OF A CENT PER POUND CHEAPER!
DON'T GIVE ME THAT! THERE AIN'T ANYTHING AS GOOD AS SOL-SPEEDI-DRI! AND I'D PAY A QUARTER OF A CENT A POUND MORE ANY DAY TO BE SURE I'M GETTING MY MONEY'S WORTH--DON'T COME IN HERE AGAIN WITH THAT "JUST AS GOOD" STUFF! WE'RE STICKING TO SOL-SPEEDI-DRI!
STILL AN OLD MAIN STREET BOY--STILL BELIEVES IN GETTING THE BEST FOR THE JOB--NOW YOU SEE WHY HE'S THE BOSS!
SERVICE MANAGER
J.R.WILLIAMS
TELLIN' 'EM OFF
T. M. REG. U. S. PAT. OFF. COPR. 1948 BY NEA SERVICE, INC.

BE SAFE . . . BE SURE . . . USE SOL-SPEEDI-DRI

People who use SOL-SPEEDI-DRI—industry's original and foremost absorbent for all liquids—have learned that they can count on the uniformly high quality of SOL-SPEEDI-DRI. They have learned, too, that SOL-SPEEDI-DRI costs *less by the pound* because it does *more* work . . . because it is always efficient, always dependable.

Yes, it's quality all the way with SOL-SPEEDI-DRI . . . quality that assures you cleaner, brighter, safer floors . . . freedom from slips and falls caused by dangerous, slippery surfaces. Obtained by selective mining, laboratory-checked hourly, and processed by the most modern methods and equipment, SOL-SPEEDI-DRI comes to you in special weather-proof bags, *every* pound at peak efficiency.

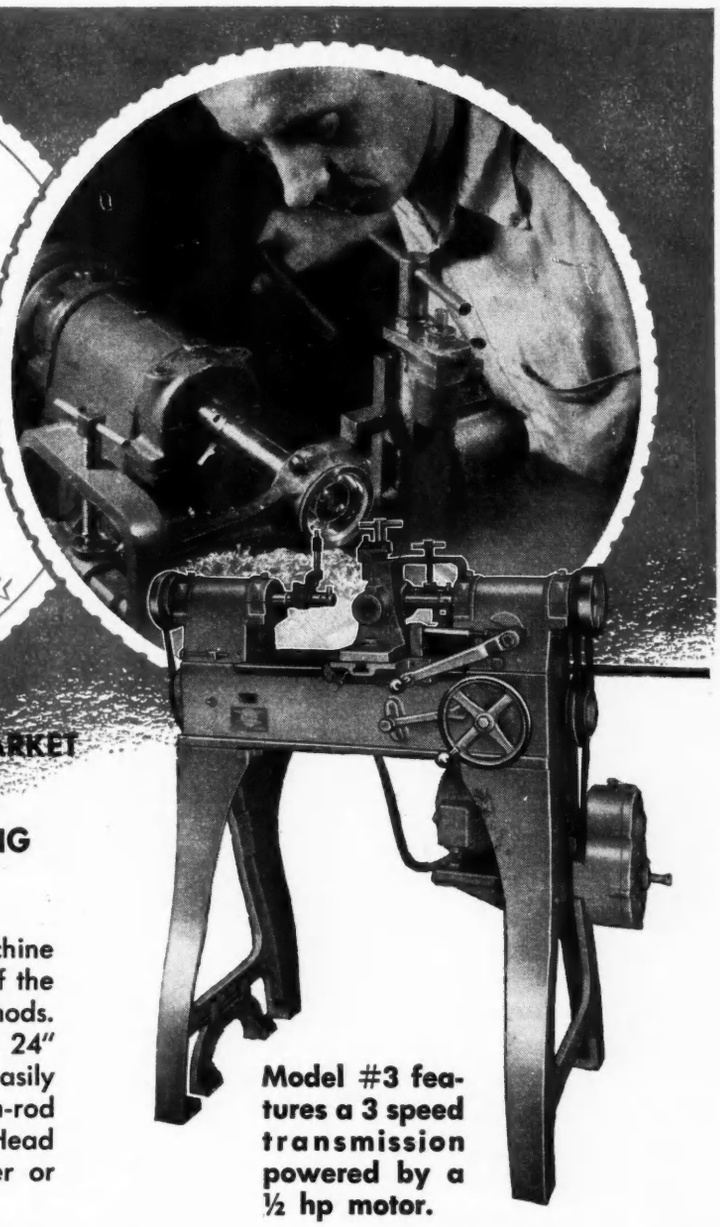
WHEN YOU BUY, BE *SURE* IT'S SOL-SPEEDI-DRI!

Safety and
Maintenance Co., Inc.
No. 1 Wall Street
New York 5, N. Y.

•

Warehouse Stocks Maintained in Principal Cities of the United States and Canada.

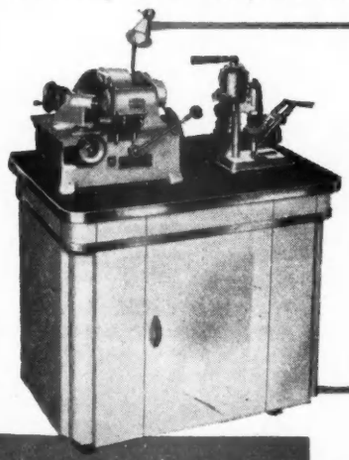
YOU *Automatically* DOUBLE-UP *on Profit with* WATERBURY *Simplicity* CON-ROD MACHINE



THE ONLY MACHINE ON THE MARKET THAT BORES, FACES AND CUTS OIL GROOVES WITHOUT CHANGING TOOLS OR RE-CENTERING RODS

The Waterbury-Simplicity Con-Rod Machine produces precision bearings in a fraction of the time required by older, less efficient methods. Takes rods 1⅛" to 4" in diameter up to 24" in length. Shell type split bearings are easily handled. Enjoy extra profits on your con-rod jobs with a Waterbury-Simplicity Twin-Head Con-Rod Boring Machine. See your jobber or write factory for descriptive literature.

Model #3 features a 3 speed transmission powered by a ½ hp motor.



PROFIT BY THE "PACKAGED" VALVE SHOP

For valve service most profitable to shop and customer, invest in the portable Waterbury-HALL Synchronized Valve Service Shop #881. Combination includes Model E-J Eccentric Seat Grinder with diamond dresser stand, pilot, spanner and wrenches; Wet Type Valve Refacer; plus a sturdy welded steel cabinet with ample storage space on ball bearing swivel rubber wheel casters. See your jobber or write factory at Waterbury for Bulletin 39-80.

WATERBURY

Engine Rebuilding Equipment

WATERBURY TOOL

Division of Vickers, Incorporated

711 East Aurora Street, Waterbury 91, Connecticut, U. S. A.

Manufacturers of Waterbury-Simplicity Engine Rebuilding Equipment
Also Waterbury-HALL Valve Equipment and Production Grinding Machines

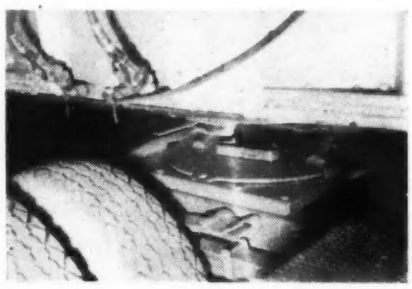
THE LINE OF LEAST RESISTANCE

Special Vehicle Equipment

(Continued from Page 60)

V11. Safety Fifth Wheel

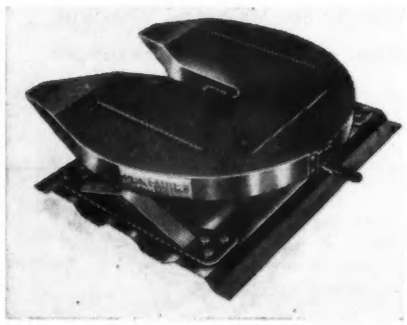
Modified fifth wheel assembly featuring a uniformly supported trailer front end, eliminating roll on turns and with a shifting of the load. This is accomplished by means of a rotary disc made an integral part of a conventional assembly. This allows the trunnion shaft to remain parallel with the trailer axle at all times, providing a wider support for the front end of the trailer throughout the entire arc of the turn. Another feature is a 4-in. offset be-



tween the trunnion rod and the king pin of the rotary disc. With the trunnion rod located behind the king pin in this manner, the center point of the load is shifted with the turning angle, offsetting the tendency of the load to sway to the outside on turns. Bound Brook Safety Equipment Co., Bound Brook, N. J.

V12. No-Slack Wheel

The Fontaine "No-Slack" Fifth Wheel, designed to eliminate the slack between truck and trailer, providing an improved safety feature. Positive locking is accomplished by designing the angle between jaw and wedge below the slip angle so that no amount of load will induce any tendency to open. Operating handle serves to move the locking jaw and wedge into and out of position. In the locked position the handle is freed of the strain normally imposed on working mechanism by the pull of trailer load. This freedom is accomplished by slotting the handle where it engages jaw and wedge. Wedge cannot back out toward open position more than ¼ in.,



which is not sufficient to permit uncovering throat to release trailer. Wheel is full 36 in. in diameter with an unlimited capacity rating. Fits all 2-in. diameter king pins. Fontaine Truck Equipment Co., Inc., Birmingham, Ala.

V13. Power Steering

The Air-O-Matic Power Steer, providing an automatic aid to steering as the driver

leads the steering wheel in either direction. Unit acts as a booster, floating between a fixed member of the vehicle and a bracket attached to the steering arm, drag link or tie rod. An air to safety and driver comfort on any vehicle having air equipment. The Air-O-Matic Power Steer Co., Cleveland Heights, Ohio.

V14. AC Alternator

6-volt rectified AC alternator system for use in the automotive, diesel, and marine fields, now available in versions delivering maximum outputs of 45 and 80 amperes. The systems deliver from 25 to 35 amperes at engine idling; maximum output at from

KD C890 De Luxe Fog Lite

Big 5½" sealed beam lamp. Adjustable head. Bumper bar clamp. Clear or amber lens. Chrome plated.

KD 612 Danger Flag

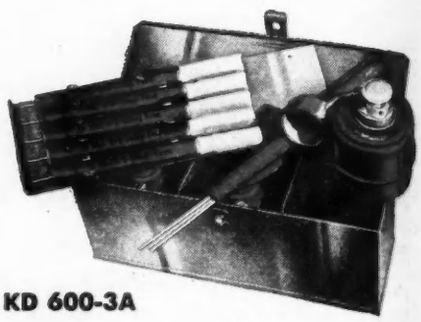
12" x 12" in color-fast, weather-resistant red. Galvanized rust-proof staff. Compact red container keeps flags clean.

KD 108 Extension Mirror. Panel or hinge mounting. Adjustable hinge bracket. Black enamel finish.

KD 333 Stimsonite Triflex Reflector.

Miracle of light reflection. Appears like lighted tail lamp at distances of 300 to 700 feet.

KEROSENE OIL FLARES



KD 600-3A

Furnished with three KD 600 flares with three flags, in heavy gauge steel box. Gangway Box Sets offer greater value. In strong, sturdy, portable box with handle, easily mounted if desired. Hinged cover with positive hasp catch that may be padlocked. Tray to accommodate fusees and flags nests in top of box. *Fusees are not furnished with the Gangway Sets.*

ALSO AVAILABLE — NOT ILLUSTRATED.

KD 600-3. In metal steel box, consisting of three KD 600 flares only.

KD 601-3. Three flares on a bracket. Immediate shipment.

KD Kerosene Flares meet I. C. C. and State Requirements.

KD 541 Armored Clearance Lite. New corrosion-proof features, plus all the patented advantages which make it recognized as the best available.

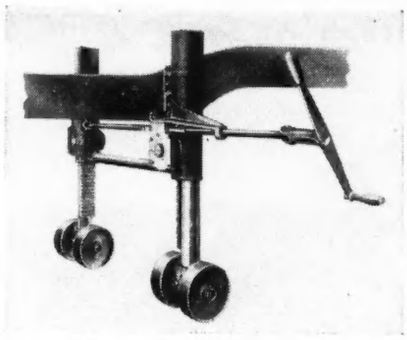
KD 105 Mirror Head. Universal ball socket mounting. Shock Proof. The silver-plated surface is sealed against deterioration by weather changes.

KD 506 Marker Lite. Right angle mounting bracket. K-D Beehive lens. Black enamel finish.

12 to 15 mph. The alternator is of simplified design, having no commutator or rotating armature winding. Brushes are unnecessary with the alternator. Twelve-volt versions, delivering 60, 100, and 150 amperes, also are available. The Leece-Neville Co., Cleveland, Ohio.

V15. Landing Gears

Model V-480 Vertical Lift Landing Gears feature stronger upper leg castings made from electric steel; fully enclosed self-locking worm gearing backed up by ball thrust bearings in combination with spur gear and rack for raising and lowering legs; four 9 x 3-in. dual disc wheels cushioned



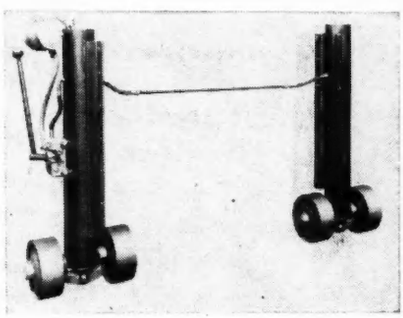
in live rubber to absorb shock and equalize wheels on uneven surfaces. Low ratio worm gearing reduces manual effort. 83 crank turns lift trailer 17½ in. Horizontal screw retracting type landing gears also available. Holland Hitch Co., Holland, Mich.

V16. Power Crane

Silent Hoist Power Swing Boom Cranes in various models and capacities from 1 to 10 ton. All operations powered from truck engine; each can be done independently or simultaneously with the other and with full load on the hook. Automatic braking is provided for all crane operations. Silent Hoist & Crane Co., Brooklyn, N. Y.

V17. Landing Gears

The Dayton Hydraulic Landing Gear consisting of a pair of cylinders, a hand-operated pump, an oil storage tank. Hydraulic pump features three speeds to save time and provide sufficient power at same time. Pump will produce a pressure of 3000 lb per sq in. to lift loads up to 40,000 lb. Gear can be mounted on any trailer. The Dayton Steel Foundry Co., Dayton, Ohio.



V18. Pusher Pump

The Carter Electric Pusher Pump featuring a newly developed mounting device for side mount truck tanks. Hanger type mounting can be installed in truck safety tanks, cylindrical and saddle tanks. Entire assembly can be lifted out of tank for easy servicing. The Carter Carburetor Corp., St. Louis, Mo.

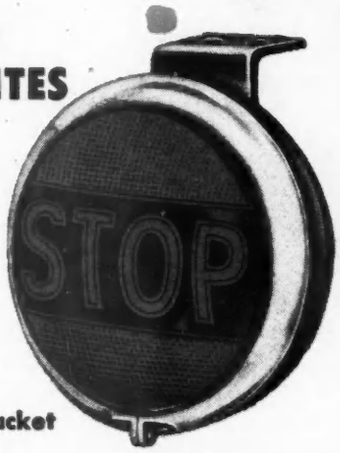
END

(Please resume your reading on P. 61)

THE COMPLETE LINE
For Safety

JUMBO STOP LITES

Rear guards that add an extra margin of safety plus being economical, durable and dependable.



KD 254 Bracket Mounting

- 4 bolts on 2" centers with detachable L-shaped bracket.
- Lens 7"—Red or Amber.
- 'STOP' in large refracted letters. Bulb 32 c.p.
- Finish—Black Enamel with Stainless Steel Door.
- Also available with flush mounting KD 254 flush.

KD 910 SA Sealed Beam Headlite. Single bolt SAE mounting. Stainless steel door. Heavy Duty unit. 6 or 12 volt. With or without parking lite.

KD 515 Flexible Mounted Marker Lite. Ground wire securely fastened across bolt. Black enamel finish.

KD C867 Red Emergency Vehicle Lite. Prefocus type bulb. Strong, adjustable bracket. Chromium Plate Finish. Plain red lens.

KD 200 Extra Heavy Duty Stop and Rear Lamp

Triflex Reflecting Glass Lens. Black enamel finish.

SAFTEE
PRODUCTS

THE K-D LAMP DIVISION
NOMA ELECTRIC CORPORATION
1910 Elm Street Cincinnati, Ohio

Component Parts

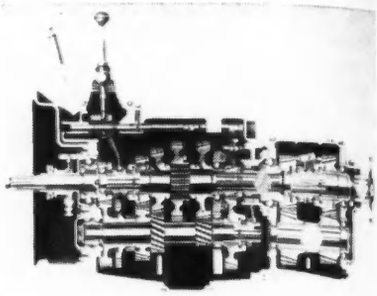
(Continued from Page 66)

C1. Two-Speed Axle

Eaton Two-Speed Truck Axles manufactured as original or optional equipment for trucks with 1½-ton capacity and up. Provide a low low speed for power and fast, high speed for time saving on the level and when running lightly loaded. Units feature planetary gear construction. In the low speed power range tooth-loads are disbursed over four planetary gears; stress and wear on teeth are held to a minimum. The slow gear movement in the planetary construction contributes to easy shifting and silent operation and longer axle life. Eaton Mfg. Co., Cleveland, Ohio.

C2. Auxiliary Trans.

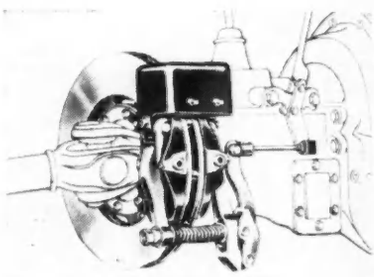
The Fuller 3T92 auxiliary transmission combining the gearing of the 3A92 and a built-in power take-off for special applica-



tions. Particularly adapted for winch drives and other heavy-duty equipment. Fuller Mfg. Co., Kalamazoo, Mich.

C3. Emergency Brake

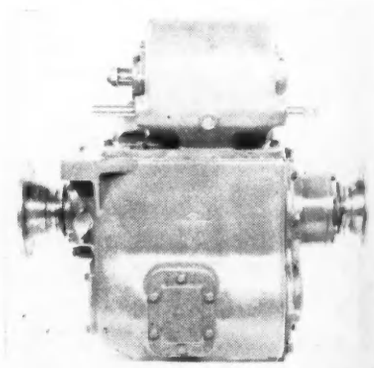
The Tru-Stop Emergency Brake for Chevrolet trucks provides an independent braking system operating off the propeller shaft. Has no connection with the opera-



tion of the wheel or service brakes. Featuring a ventilated disc which permits a flow of air through the disc and over the braking surface. Automotive and Aircraft Div., American Chain and Cable Co., Inc., Bridgeport, Conn.

C4. Auxiliary Trans.

Spicer Brown-Lipe Model 8031 Auxiliary Transmission with Model 8031 Top Mounted, Full Torque Power Take-Off. Three-



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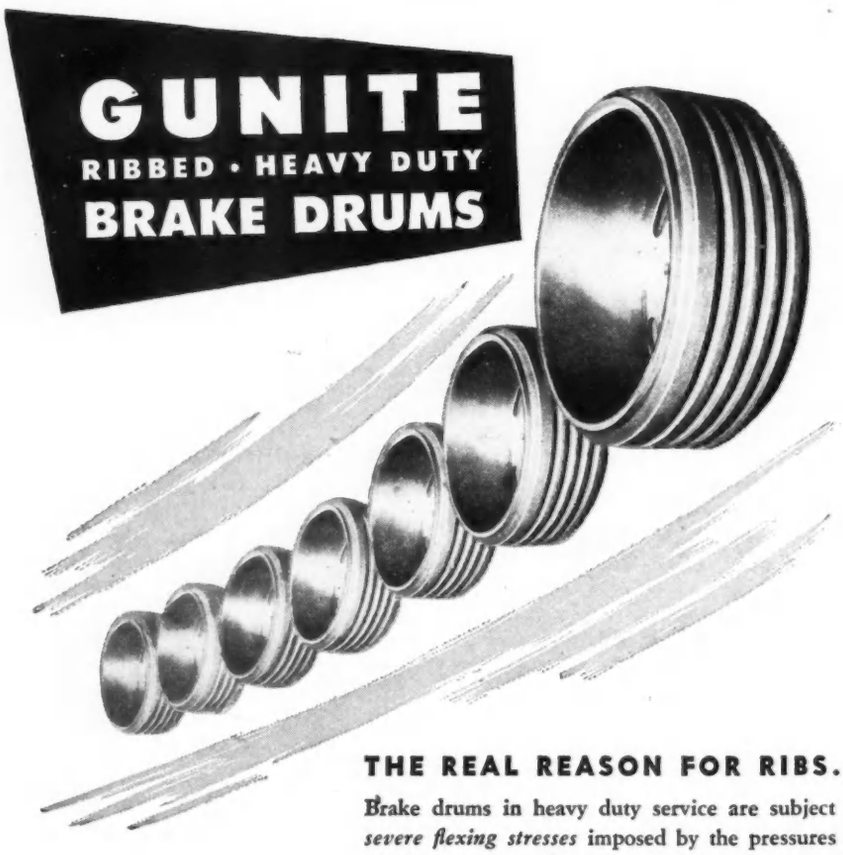


THE REAL REASON FOR RIBS...

Brake drums in heavy duty service are subject to *severe flexing stresses* imposed by the pressures of of the shoes, tending to stretch the drum out of shape; and high temperatures, sometimes running to over 1000°. The characteristic ribs on GUNITE Brake Drums look like cooling fins but are not. Their purpose is (1) to stiffen the drum and hold it in shape against the shoe pressures, (2) to permit the use of thinner sections and thus reduce internal compressive and tensile stresses that produce "heat check", and (3) to permit axial expansion of the braking surface at high temperatures, further tending to prevent heat check and breakage. The GUNITE rib design was developed by hundreds of gruelling over-the-road tests and its effectiveness has been demonstrated by a thousand million miles of silent proof. *Buy RIBBED Gunites for heavy duty braking!*

Write for our new folder giving further information on the advantages of ribbed drums.

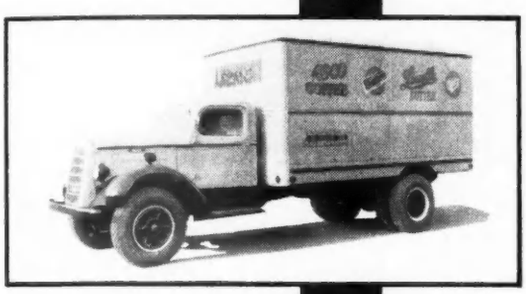
MADE BY
GUNITE FOUNDRIES
ROCKFORD, ILLINOIS

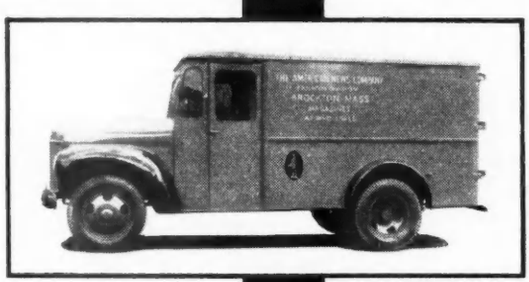
GUNITE CAST WHEEL ASSEMBLIES FOR TRAILERS AND TRUCKS INCLUDE FAMOUS GUNITE BRAKE DRUMS

The reliable tailor

gets your repeat business

It takes RELIABILITY to win Repeat Business . . .

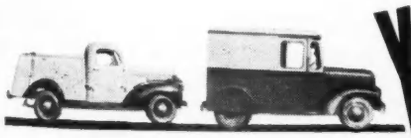




and YORK-HOOVER BODIES are being re-ordered by fleet operators everywhere

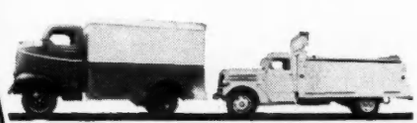
Because they can count on low cost "per package" delivery due to specific purpose design, because they get dependability, because, through honest workmanship, they get low maintenance quality—fleet operators come back to York-Hoover with reorders time and time again. They've experienced the over-all *reliability* of York-Hoover Bodies and they want "more of the same."

This steady increase in customer approval of York-Hoover Bodies is the result of *sound engineering* and *fine craftsmanship,* factors which have kept York-Hoover a leader in the production of quality truck bodies for more than 55 years.



YORK-HOOVER BODY DIVISION CORPORATION

YORK, PENNSYLVANIA



Component Parts

(Continued from Page 228)

speed Auxiliary Transmissions are available for all truck sizes from medium through heavy heavy, each model having helical, constant mesh gears. In combination with Spicer Brown-Lipe transmission the several optional ratio combinations make possible the most efficient gear splitting and the maximum range of speeds for every type of truck service. Spicer Mfg. Div. of Dana Corp., Toledo, Ohio.

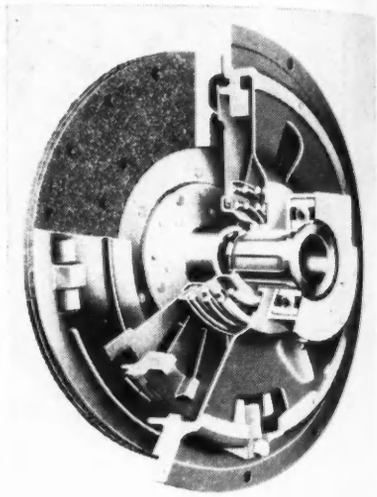
C5. Propeller Shaft

Spicer heavy-duty two-joint propeller shaft assembly for the main drive line of all sizes and types of trucks and buses. In addition to the flange yoke and companion flange construction, the end yoke construction can be furnished. Of Spicer needle bearing design, and means for relubrication are provided. The Spicer Mfg. Div. of Dana Corp., Toledo, Ohio.

Directional Signal No. 701. Single-faced for installation on fender, body or frame. Baked black enamel finish. Amber plastic lens.
Directional Signal No. 801. Double-faced for front mounting; visible from front and rear. Baked black enamel finish. Amber plastic lens.
Mirror Head No. 661C. Ball-stud type, rimless chrome head 6" in diameter, with 360° adjustability.
lighting equipment you need
Arrow has the most complete line of State and ICC approved equipment on the market—equipment that rates a well-earned okay from performance-demanding fleets. There is an Arrow product for every lighting requirement on every truck, bus or tractor—sturdily built and designed to stand up under years of hard use. Buy Arrow for safety after dark.
Reflector No. 217. Baked gray enamel finish. Shatterproof plastic lens. Rim extends beyond lens for extra protection.
Stop and Tail Light No. N-432, with universal mounting bracket. Clear lower lens illuminates license plate. Available with or without chromium rim.
Armored Clearance Light No. 47. Housing around lens gives maximum protection. Red, green or amber lens. Baked grey enamel finish.
Triple Marker Light No. 33. Glass beehive lens in red, amber or green. Black enamel finish.
Streamlined Marker Light No. 39—may be used on corners in place of two lights. Red, amber, green, moonstone or clear lens; chrome, satin aluminum or black enamel finish.
SAFETY AFTER DARK
ARROW
ARROW SAFETY DEVICE COMPANY
MOUNT HOLLY, NEW JERSEY

C6. 14-in. Clutch Plate

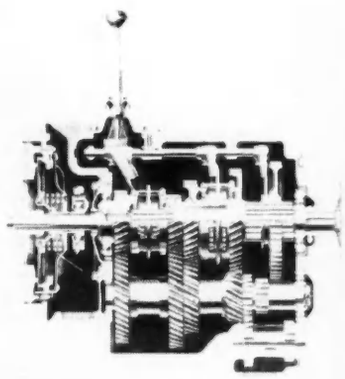
Cutaway view of Spicer 14-in. single-plate clutch. Also available in 13-in., 14-in. and 15½-in. single and two-plate models for



trucks in the medium through heavy heavy sizes and all sizes of buses. Spicer Mfg. Div. of Dana Corp., Toledo, Ohio.

C7. 5-Speed Transmission

Sectional view of Spicer Brown-Lipe Model 6252 and 6253 five-speed heavy-duty synchronized truck transmission and 14-in. single plate clutch. Transmissions are



available in four and five speeds for trucks ranging from medium through heavy heavy. Several models have positive blocker-type synchronizers as shown. All models can be furnished with clutch and with either conventional overhead shift lever or for remote control. Spicer Mfg. Div. of Dana Corp., Toledo, Ohio.

END

(Please resume your reading on P. 67)

LOS ANGELES CUTS ACCIDENTS

Drivers of 11,870 motor vehicles, comprising fleets of 116 leading business organizations in Los Angeles County, achieved a reduction of 12.9 per cent in the accident rate in driving 267,085,501 miles during the period of one year, while participating in the Fourth Fleet Safety Contest of the Greater Los Angeles Chapter of the National Safety Council.

WOLF'S HEAD

Heavy Duty MOTOR OIL

An expertly blended combination of the FIVE FACTORS necessary for *Superior* heavy duty performance

1. STRONG, TOUGH FILM
2. EXCELLENT DETERGENCY
3. UNEXCELLED DISPERSANCY
4. RESISTANCE TO OXIDATION AND HIGH ENGINE TEMPERATURES
5. NON-CORROSIVE TO BEARINGS

100% PURE PENNSYLVANIA — P.G.C.O.A. Permit No. 6

All heavy duty oils, to some extent, have one or more of these five factors—but Wolf's Head Heavy Duty has all five, superbly developed to produce the very finest lubrication for heavy duty service.

We constantly receive from leading bus and truck fleets Case Histories that outline the experience of a particular fleet operator, giving *his* reasons for specifying Wolf's Head Heavy Duty Oil. From time to time we publish these Case Histories in the advertising pages of fleet papers because they represent *real proof*—supported by the records of men who know their business—of Wolf's Head's superiority.

LABORATORY CONTROL SERVICE—*Gives fleet operators specific recommendations for their units, based on analysis of crankcase oil. Helps to establish correct drain periods, conserve engine life, reduce lay-ups. Frequently reveals unsuspected engine troubles. Free and without obligation.*

WOLF'S HEAD OIL REFINING COMPANY, INC. • OIL CITY, PA. • NEW YORK 10, N. Y.

What FLEETMEN Want in Trucks

(Continued from Page 94)

Second, our drivers spend most of their working hours driving and, therefore, increased comfort in the cab is of primary importance. Also, easy-riding equipment does not shake itself to pieces so quickly on the road.

(a) Front springing-present trucks, without exception, have too short front springs. Also, most trucks have too narrow leaf springs to be sure of the front axle staying underneath the truck in an accident or severe shock. We believe that the leaf type spring is probably the most practical of all the types of springing, in that it has many mechanical advantages and is simple to repair and is usually reasonably long-lived if the springs are of adequate capacity. We are using trucks with 4-inch wide springs with threaded shackles 48 inches long. If we were manufacturing a truck we would look toward springs at least 4 inches wide and 60 inches long. This is definitely worth a lot of consideration for over-the-road trucks.

(b) We have the same comments to make regarding rear springs on four-wheel trucks. To date, there is no completely satisfactory dual axle springing assembly. We use six-wheel trucks and are looking forward to a simpler, easier riding dual-axle assembly. Even though some additional weight be required it is believed that dividends can be taken from easier riding equipment.

Third, engines are needed that will permit a speed of approximately 20 miles per hour up a 5 per cent grade if we are to have reasonable efficiency. It is believed that performance in excess of this with the conventional type engine will unduly increase the cost of operation for average trucking. We are presently using 200 H.P. engines hauling 72,000 pounds that will negotiate a 5 per cent grade at 13 miles per hour when they are working at their maximum performance.

Fourth, transmissions are almost mechanical marvels as far as durability is concerned. However, if maximum efficiency of the engine is to be obtained it is necessary to add an auxiliary transmission. This becomes a hodge-podge of gear combinations that seldom produce the correct gear ratios, but do produce many combinations that are unusable and create great difficulty in teaching drivers to shift correctly.

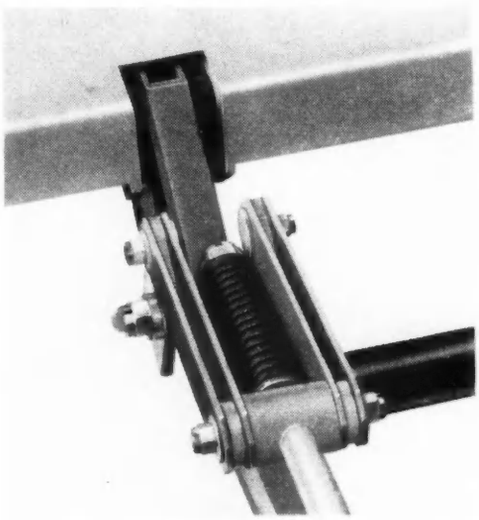
We find that gear ratios should be in the order of 1.00 to 1; 1.23 to 1; 1.53 to 1; 1.92 to 1; 2.42 to 1. This does not provide wide enough range of torque multiplication, and we suggest that a three-speed secondary transmission with gear ratios of 1.00 to 1; 2.16 to 1; and 4.70 to 1 be incorporated either in one box or as an auxiliary transmission. Such a combination will produce correctly spaced gear ratios that are easily shifted and produce the essential needs of trucking: A starting range, a mountain range and a road range.

Fifth, brakes are similar to transmissions in that they do an excellent job, particularly on small vehicles. However, on large over-the-road equipment we believe that the braking system should be completely changed. That the wheel brakes should become the emergency or parking brakes. That they should be small in size, but powerful enough to hold the wheel from turning under any reasonable condition. Present hand or parking brakes only apply brakes to the rear wheels, and are not satisfactory because all wheels, other than the front wheels, should be braked under emergency or parking conditions. In this manner, these brakes would not be used as service brakes, but would be retained for severe brake applications of short duration, and for parking. Their small size would get them farther from the tires so that there would be less trouble encountered from brakes destroying rubber tires. Then, some type of electric retarder should be used for service operations such as average braking conditions and dissipating the energy of a truck and trailer going down long grades. Last, but not least, there should be some method of applying the wheel brakes on each of the axles by some emergency con-

(TURN TO PAGE 234, PLEASE)

LIFTS SMOOTHLY CLOSES EASILY

The CEMCO *Hydraul-lift* TAILGATE



Lowers or raises up to 2,000 pounds—tailgate closes with gentle push of the hand. Heavy duty assist spring and hinge construction compensate for tailgate's weight (see enlarged view).

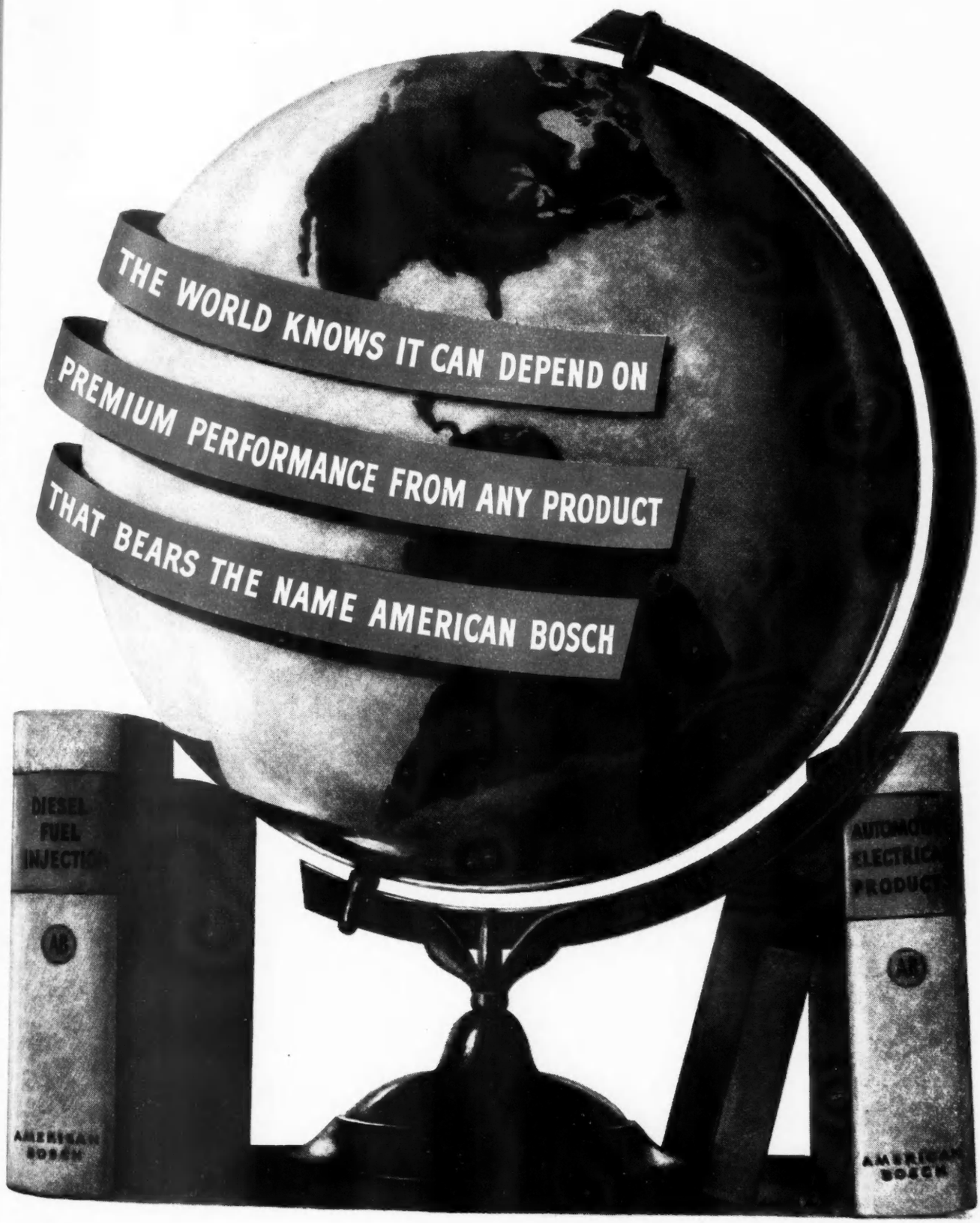
- **Tailgate mounts on any truck, new or old**
- **Comes complete with power take-off and all mounting accessories**
- **Less dead weight—more payload. (This gate weighs only 733 lbs.)**

One man operated . . . Saves time and money

Write for name of your nearest dealer!

CEMCO INDUSTRIES, INC.

Galion, Ohio



American Bosch

Factory in Springfield, Massachusetts • Service the Whole World Over

What FLEETMEN Want in Trucks

(Continued from Page 232)

trol that can be applied by the driver in case his regular manner of applying the brakes has failed. I cannot emphasize too strongly the need for several independent braking systems on the various axles to apply independently of another axle where a failure has occurred.

Sixth, tires are now giving reasonable service, but we believe they could give better life and support our trucks and trailers more safely on curves if the maximum width were increased. There is presently too little room to put wide wheels and wide tires within 96 in. and then install springs inside these tires and still have sufficient frame width and spring width to provide a completely stable truck and trailer. We are looking forward to reduced air pressure in tires to reduce cutting, channel cracking and blow-outs. We believe that fewer plies in truck tires would permit us to use a more flexible tire that could roll over rough roads with less carcass breakage.

In conclusion, we are interested in lighter trucks, less expensive trucks and trucks that will produce more ton-miles per year with greater efficiency and lower maintenance. However, we can stand some increased weight and some increased cost if the features enumerated could be obtained in trucks that we could operate in the future.

Sympathetic Attitude

Manufacturers could provide special research for special problems . . . and we need more efficient utilization of weight and space . . . better accessories

GEORGE H. IRISH

Head, Transportation Section, Tennessee Valley Authority

I WOULD like to see a more sympathetic attitude on the part of the manufacturers toward what might be termed ideas of adventure into special fields. Most of the programs of the principal manufacturers are designed to allow for mass production which forces the users to mold their needs to the vehicles available rather than permit them to provide adequate tools for the problems at hand. This course of the manufacturers is easily understood. However, I feel that they owe it to the users to provide special study and research when called upon by the fleet operators for reasonable engineering advice and suggestions. This would not necessarily be a burden because they have the talent and facilities available and in cases where production results, the users would bear the proportionate share of the costs involved.

It is difficult to be specific in a recommendation of individual improvements, but I am suggesting several features of general nature, some of which have been used successfully by us. In some cases, we have built the entire vehicle by assembly of component units in chassis of special designs. In other instances, adaptations have been made by converting standard vehicles to meet the needs at hand.

1. *More efficient utilization of weight.* Maximum proportion of GVW for payload. Achievement suggested by:

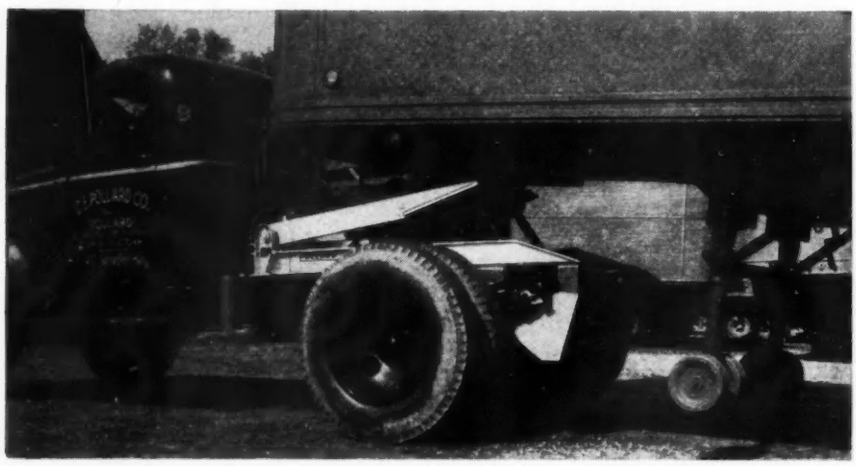
a. Multifunction part designing in frames, bodies, axles, wheels, cabs, sheet metal, suspensions, accessories.

b. Use of light metals (HT steels, aluminum, magnesium, etc.).

c. Use of different type structure, designs, (tubular frames, monocoque structures in panels, door-to-door deliveries, etc.).

2. *More efficient utilization of space.* Space in cities and on the highways is getting more critical each year. Future trucks must better utilize the space they occupy.

(TURN TO PAGE 236, PLEASE)



Why Waste Time Winding Dollies In Yard-Switching!

A tractor equipped with a Pollard 5th Wheel Hydraulic Platform slides easily under the trailer front because it has lower than standard mount. The trailer is then elevated hydraulically with cab control, enabling the trailer to be moved with dolly wheels in vertical parking position. No dolly cranking!

Enables one man to move twice as many trailers as 2 men with conventional 5th wheel mounting.

When elevated, dolly wheels clear ground approximately 8 inches—enough to clear any yard entrance.

No more dropping of trailers on front plates, as dolly wheels always remain extended.

Adapted to standard 5th wheel equipment.

We'll Loan You a Demonstrator

So that you may prove to yourself how much easier it makes yard-switching and how it reduces labor costs we'll loan you a tractor equipped with a Pollard 5th Wheel Hydraulic Platform to use for a whole day right in your own yard.

Then you'll see why many truckers have as high as six or more Pollards in daily use.

Write us to list you for a Free All-Day Demonstration.

Literature on request.

C. E. POLLARD CO.

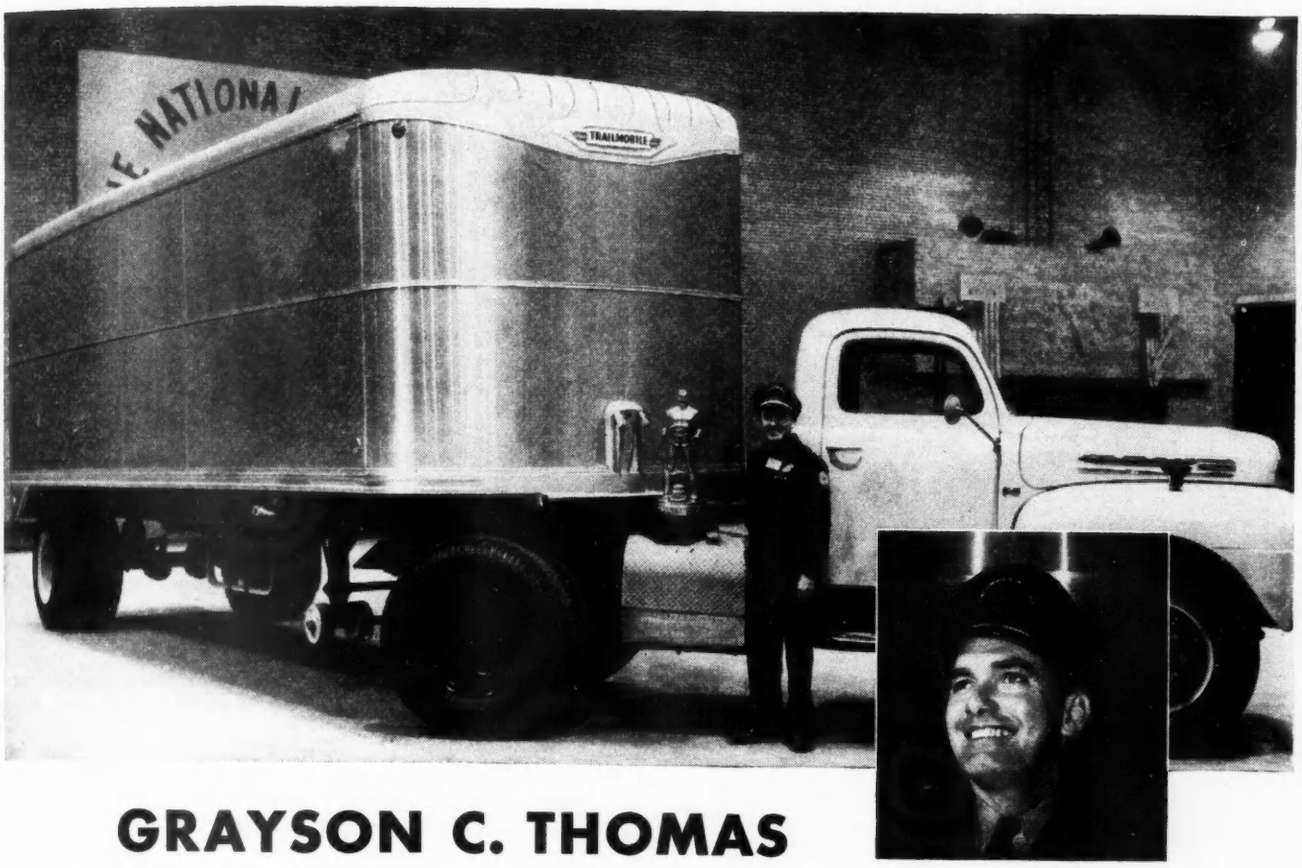
14571 Schaefer Rd. Detroit 27, Mich.

Pollard

5TH WHEEL HYDRAULIC PLATFORM

Trailmobile Wins Again!

(FOR THIRD CONSECUTIVE YEAR)



CHAMPION DRIVER OF 1948
Grayson C. Thomas, of Associated Transport, Inc., Burlington, N. C.

GRAYSON C. THOMAS

Captures ATA National Roadeo Title with a Trailmobile Trailer

For the third year in a row a Trailmobile Trailer has been used by the winner of the National Roadeo Championship!

Trailmobile salutes this year's champion, Grayson C. Thomas! The way he maneuvered his Trailmobile over the tough ATA course proves that there is no substitute for skill and experience. And experience has taught Mr. Thomas that you can't beat a Trailmobile for ease of handling.

In solving the driving problems he faced at the Roadeo, the winner demonstrated how a Trailmobile can be wheeled around in tight spots with ease and precision. His outstanding performance indicates once again that Trailmobile is "*the easiest pull in the industry!*"

This year's third straight win by a driver using a Trailmobile bears out our claim that "*the more you compare trailers, the more you'll want Trailmobile!*" Get the facts from your Trailmobile representative today. Or write to The Trailmobile Company at Cincinnati 9, Ohio or Berkeley 2, California.

Sign of Service Coast to Coast

TRAILMOBILE TRAILERS

A UNIT FOR EVERY HAULING NEED

What FLEETMEN Want in Trucks

(Continued from page 234)

in motion and parked, to avoid sacrifice of capacity in meeting the stringent limitation placed on loads and dimensions by State legislation.

a. *Vertical space utilization.* Lower load platforms by redesign of suspensions, frames, and bodies.

b. *Longitudinal space utilization.* More load space for given OA length. COE, load over cab or even cab over load with engine and drive between axles and under floor.

c. *Transverse space utilization.* More load area by thinner walls, maximum body width and a converted drive to secure 108 inch width laws.

3. *Safer and easier vehicle operation.* Drivers cannot have too much vision area. Front and side vision improvement should be extended to incorporate the maximum of the remaining "blind" section of the side and the rear.

a. Better rear view mirrors, larger, sturdier, wider vision.

b. More glass in rear of cab where bodies permit rear vision.

c. Steering boosters should be mandates in all cumbersome units.

4. *Longer life accessories.* Experiences indicate a need for better commercial vehicle accessories and component units of equipment.

a. *Cooling systems.* Should last as long as vehicle.

b. *Air compressors.* Why not last as long as engines?

c. *Batteries.* They should be more adequate and last as long as the engine or even the vehicle.

d. *Electric systems.* Starters, generators, regulators, horns, lights, instruments, and wiring should have lives equal to vehicle life.

e. *Heaters* are a *must* in most sections and should last as long as vehicle.

f. *Seat cushions* and upholstery are very poor. No reason why can't last as long as cab.

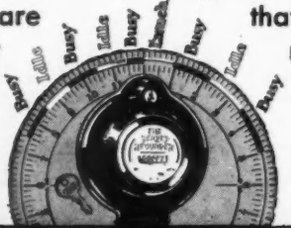
g. *Braking System* needs considerable refinements. A multitude of features are involved but the dream of the operator can be summed up in this expression; hope to eliminate brake failure from the list of major reasons given for accidents.

The SERVIS RECORDER
Helps the Good Driver
—its Job is to Help Equalize the Work.... Fair and Square to All

The *Servis Recorder* is definitely *NOT* a "sleuth" to spy on your drivers, most of whom are faithful, hard working employees.

No, one of the *Servis Recorder's* chief functions is to measure the work-load of each driver—to give a "break" to those whose routes are too long and heavy and to share that overwork with some other driver who hasn't quite enough.

If Joe on truck #2 has 5 hours work every afternoon and Emil on #4 has only 2½ hours, their Servis Recorder charts show it. That's why the good driver likes the *Servis Recorder*. He knows it *shows* the boss that he's a good driver and, naturally, he wants the credit for that. Write for full information. The Service Recorder Company, 1375 Euclid Avenue, Cleveland 15, Ohio.



The Servis Recorder
The Good Driver's Best Friend

Economy Before Performance

Often the better the vehicle the higher the maintenance cost . . . maintenance must be made easier, cheaper and safer

T. L. PREBLE

Supervisor, Automotive Equipment
Tide Water Associated Oil Co., N. Y. C.

THE truck of the future is an elusive target but worth shooting at. My few remarks had best be classified under two headings — "General" and "Specific."

1. *General*

(a) Commercial transportation, to be most effective must be *economical* and the goal of the manufacturer should be overall economy—not just *performance.*

(b) Economy best can be achieved by collaboration between operators possessed of factual experience and manufacturers who want to supplement such "frequncy of failure" data as they possess by personal contact with their "bread and butter." In other words, the producer of a machine should critically examine it, and its usage through the eyes of the user. He, therefore, must *visit* the user, and the user must supply him with specific data. Many fleet operators would be glad indeed to collaborate with producers in the preparation of such data. Fleet shops could be a valuable adjunct of the manufacturers.

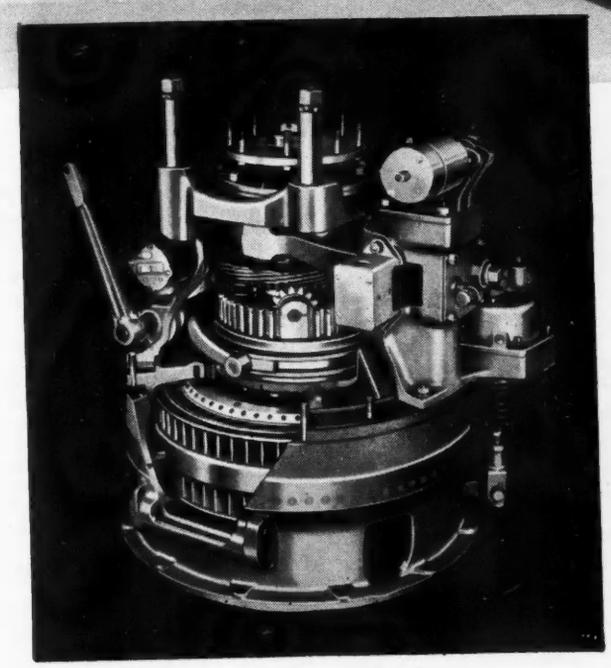
2. *Specific*

(a) The Truck of the Future, no matter how good it is per se will, I hope, be pre-

(TURN TO PAGE 238, PLEASE)

Smoothness

exemplified to the highest degree in automotive power transmission in the Spicer Torque Converter



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Division of Dana Corporation
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TRANSMISSIONS • PASSENGER CAR AXLES • CLUTCHES
PARISH FRAMES • STAMPINGS • TORQUE CONVERTERS • UNIVERSAL JOINTS
SPICER "BROWN LIPE" GEAR BOXES • RAILWAY GENERATOR DRIVES

What FLEETMEN Want in Trucks

(Continued from Page 236)

scribed for a given type of operation only by an intelligent representative of the manufacturer who is so selected and trained as to be able to recommend the proper unit. Ignorance of this subject is an important contributor to causes of frequent servicing and, therefore, to needless expense.

(b) The basic policy of designing and building commercial motor vehicles for operation rather than maintenance seems to be a bit of a boomerang. The better the vehicle, the more sensitive it is to adjustment and the more difficult the adjustments. The better the vehicle, the more difficult and extended the maintenance operations, and the fewer the routine maintenance operations, the longer and more costly they appear to be. Maintenance mechanics received 80 cents an hour or thereabouts in 1930 and they now receive up to $2.00 an hour—a situation which is made even worse by a lessened productivity per man. Fairly recent studies showed, for example, that maintenance time for small commercial vehicles was 39.8 hours in 1942 as against 32.5 hours in 1930. The greatly increased cost of parts must also be taken into account; furthermore, we must give more emphasis to the layup for maintenance of the vehicle than ever before—for the reason that such layup brings about idle driver time, and the cost of drivers relative to the total cost of transportation has increased sharply over the last several years.

(c) The matter of accessibility is tremendously important in its influence on maintenance time and cost. It affects also the willingness to maintain, a factor of morale particularly pertinent in these days of labor unrest and lessened productivity.

(d) Designers should concentrate more than ever before on elements demanding excessive maintenance time.

(e) Because of the tremendous cost these days of garage buildings, a much greater amount of thought and discussion is currently being given to the provision of electrical appliances necessary for the prompt starting of vehicles stored outdoors. I believe that vehicle producers should adapt their engines so as to make it easier to install immersion heaters.

(f) As regards safety, data from a number of competent sources seems to indicate that only about 8 per cent of accidents are the fault of the machine itself, but accidents due to mechanical defects notoriously costly and I believe that designers should carefully analyze specific causes of brake failure and the like and redouble their efforts to make the vehicle as foolproof as possible from the standpoint of safety.

Truck Drivers Aren't Minstrels

But they all sing the praises of--

Signal-Stat

DIRECTIONAL SIGNALS
with the only
BURN-OUT PROOF SWITCH*

*the only switch that can be used with or without flashers.

And there's good reason, too!...
No more inconvenience of outstretched hands that could mean anything.
Now SIGNAL-STAT provides:
Obvious signals of intention to turn, guaranteed by the only Burn-Out Proof Switch that can be used with or without flashers. Available in SIGNAL-STAT sets or as replacements for other switches.
Lamps that are superior for durability, visibility, ease of installation and multiple-position mountings without extra parts.
Sold by the best jobbers and installed by all vehicle owners interested in promoting safety, avoiding accidents and reducing insurance premiums.

Signal-Stat CORPORATION
1430 Herkimer St., Brooklyn 33, N. Y.

Also Fuse-In-Line Receptacles—Stoplite Pilots—Emergency Brake Pilots

AT THE A. S. I. SHOW—BOOTH C-261

Accessibility Again

That's first . . . but then there is the matter of light weight engines . . . better gadgets . . . tires . . . frames . . . visibility

F. K. GLYNN

Engineer, Operation & Maintenance of Auto. Equipment, American Telephone & Telegraph Co., N. Y. C.

ONCE upon a time, and this is no fairy story, you could walk into the engine of a car or truck and actually reach a spark plug without balancing a rotund belly on a fender or hanging the carcass from skyhooks. I'd really like to enjoy the sensation of ACCESSIBILITY again before I retire.

I could today ask for power in small packages at light weights for the future. Perhaps I wouldn't want to pay for it but as soon as the prices start to fall (if ever) maybe the manufacturers could temper the drop by a little expense here and there to increase power and decrease engine weight and size.

Of course, I want better gasoline econ-

(TURN TO PAGE 240, PLEASE)

Having Trouble With Lettering?

The world's largest fleet operators say, "Sprayed lettering is their choice for lower unit cost . . . less maintenance cost . . . extra beauty."

Write for free booklet, "We've Licked The Lettering Problem."

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It's a proven fact—the lettering or trademark on the side of your vehicle can be as permanent as the finish to which it is applied—if it is spray-painted through our adhesive stencils with the same lacquer or enamel as the body finish.

What FLEETMEN Want in Trucks

(Continued from Page 238)

omy especially since the price has gone so high and may never get back to terra-firma.

If Stalin doesn't shoot Santa Klaus I could ask the future to bring improvement to the electrical gadgets on a truck.

Naturally I don't want a clutch or gear transmission in my truck of the future. I just want a driver to have a balanced accelerator-brake treadle which his toes would push to go and his heel would push to stop. What he does with his left leg I don't care. He can be one-legged, if you please. Now this clutch-transmission unit must have a thousand speeds and do all (almost all) the thinking for the driver. It must stay cool for it may still be under the driver's feet or seat, even in the future.

Maybe I don't want this "transmission" at all! Maybe I want a little bit of an engine of 100 to 350 horsepower crosswise, upright or flatwise, hitched to a little bit of a generator. I would lead the juice to a controller for the driver and then put a little bit of an electric motor in each wheel whether 4 x 4 or 8 x 8. This way, the future would do away with an 'ell of a lot of things like clutch, transmission, universals, shaft, differential, service brakes, etc.

Tires are wonderful now BUT for the future I'd like 'em as enduring as any other part of the chassis, with no punctures, no slip when braking, no overheating, etc.

If I can't have "transmission" or "electricity" which serve as effortless brakes driverwise on this dream truck of the future, I must have better brakes, the design of which does not mess up frame widths, wheel sizes, etc.

Frames must be light weight and, naturally, if the future truck has no driveshaft, the "CA" can be any dimension within reason, SAE Standards notwithstanding and no trouble to the chassis manufacturer except to drill the holes for the rear end where the customer says. Let's also keep the frames low and put real comfortable springs and shocks on the frame.

As a fleet operator of the trucks of the future, I sure want some of the tinware removed. Damn these American Can grilles, half-fastened moldings and chrome-plated (?) this and that! Make the grilles and radiator shells outa bumper steel and save us many dollars. We also want longer-lived paints and finishes. Maybe these can be built into the metals of the future and thus become everlasting.

I've forgotten the radiator! Let's get rid of that too and use air. It's cheap except for the horsepower to agitate it! Perhaps we will have metals in the engines which don't care how hot they get.

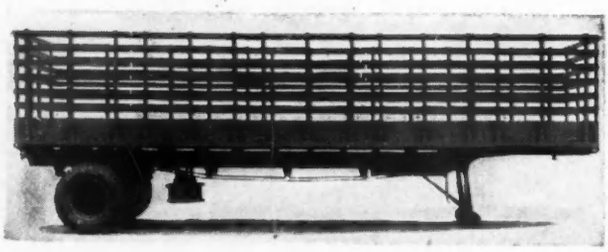
I think I'd like the driver of the truck of the future to be seated well above the level of the driver of a passenger car. The future driver will have been brought up to expect comforts we know nothing about. He will demand probably get a full safety cab, crashproof, fireproof, heat and coldproof, fully climatized, wired for sound, with visibility unobstructed for 200-odd degrees of a circle and upholstery like he has on the loveseat in his parlor at home.

The headlights we give this future driver will illuminate the entire roadside for safe speeds of 60, 70 and 80 miles per hour with no glare or effect on the driver of an oncoming car or truck.

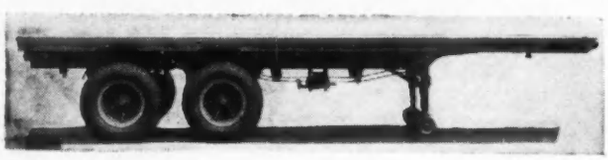
(TURN TO PAGE 242, PLEASE)

TEC
TRUCK ENGINEERING CORP.

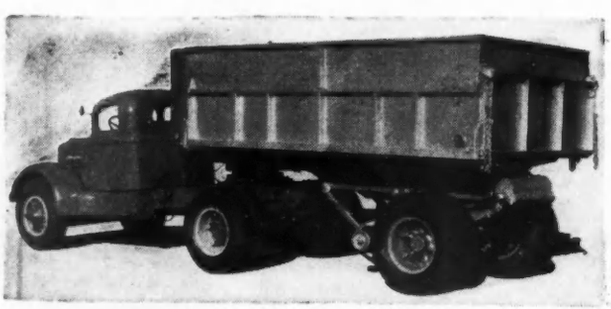
TRAILERS
VANS • STAKES • FLATS



Single and Tandem Axle. All Sizes and Models



DUMP UNITS



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TEC TRAILERS are designed to haul maximum payload with minimum dead weight, and provide long life with low maintenance cost. Prompt delivery can be made on standard models.

Some Distributor Territory Available

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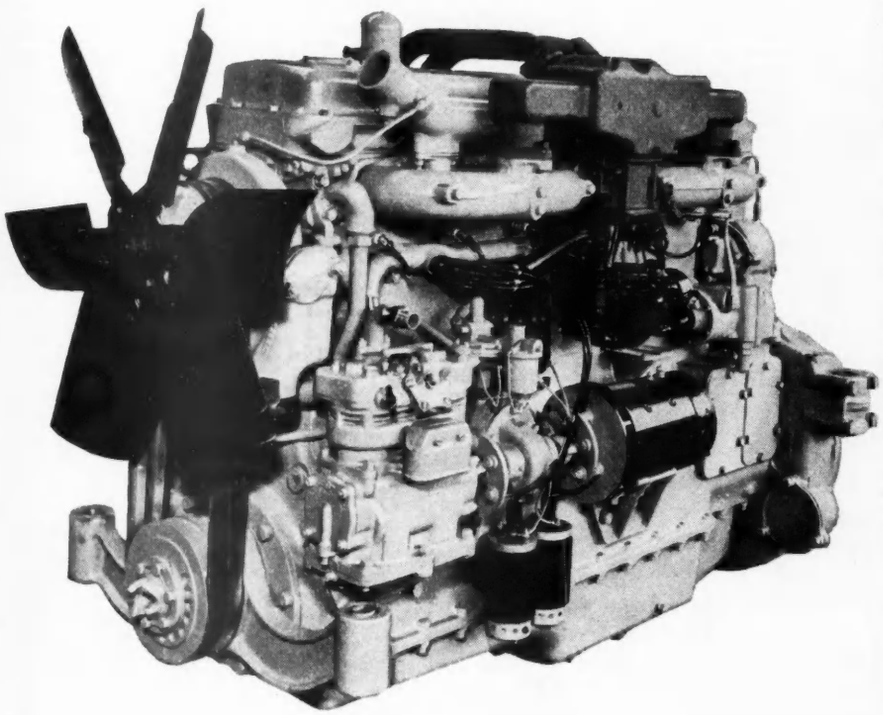
FOR ON-THE-JOB PERFORMANCE use the HALL-SCOTT "400"



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2. Long Life
3. Minimum Maintenance
4. Gasoline or Butane Equipment
5. Clean Operation

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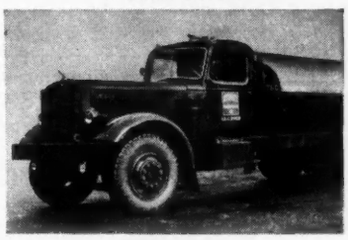
KENWORTH



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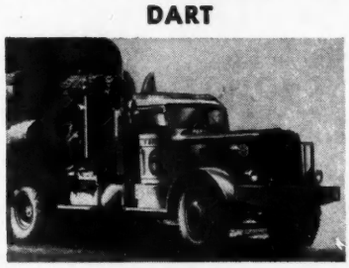

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- Assembled ☐
- Hot tank ☐
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STRIPPING PAINT
- Hot tank ☐
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Main Office: 50 Court St. BROOKLYN 2, N. Y.

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Use PERMAG For PROPER CLEANING COMPOUNDS

Operation continues without overhaul after above mileage records.

NEW IMPROVED

"EXPELLO" CONDENSATE VALVE

DRAINS YOUR AIR RESERVOIRS AUTOMATICALLY WHILE IN OPERATION

You also can cut your maintenance costs and reduce lay-up time by using the "Expello" valve to eliminate: (1) frozen air lines, (2) faulty brakes, (3) water soaked brake diaphragms, (4) clogged door engines, (5) dirty windshield wipers, (6) messy garage floors (valve expels all oil and water onto street while operating). Thoroughly tested—7,000 in use.

Three Models Available
- **Model C-1-8—12 volt heating element**
- **Model D-1-8— 6 volt heating element**
- **Model B-1-8—No heating element**

Available now on original equipment; specify "Expello" on your next order for buses, trucks, trolley coaches or street cars. For trial order or further information, see your service parts dealer or write to:

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Dearborn, Michigan • Main P. O. Box 117

B U Y B O N D S

What Fleetmen Want in Trucks

(CONTINUED FROM PAGE 240)

As to bodies—this gets personal to the fleet operator himself—all the foregoing was piled up in the lap of the automotive manufacturer. Light weight, strong, corrodeless metals will be essential. There will be no rivets or bolts, all fused or welded. The bodies will last a lifetime so that Scotch fleet operators will die by inches to junk one. Again the finish will be mixed into the metal whereby scratches will be of little consequence. The hardware, hinges, locks, etc., will be stronger, lighter and of better appearance.

This foregoing truck of the future sounds like an inexhaustible machine of indefinite long years of useful life like grandma's sewing machine which still stitches an even seam. It may be all that and more but no generation of Americans will let truck design stand still and neither will anyone, anywhere, at any time in the United States, be satisfied with the motor truck of the then-today, if you get what I mean!

More Capacity

For city delivery, we need greatest capacity in shortest space . . . lower floors, . . . reduction in maintenance costs

W. D. BIXBY

Vice-president, United Parcel Service, New York, N. Y.

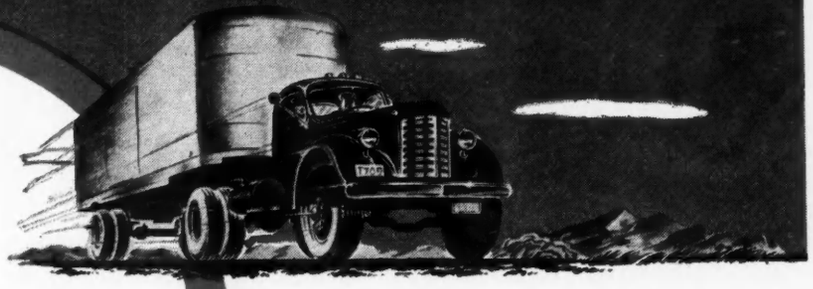
BECAUSE we operate largely in congested metropolitan areas, we are interested in the greatest cubic capacity possible on vehicles having the shortest overall length and turning radius. This type of vehicle also reduces the amount of space required in our transfer and delivery stations resulting in lower occupancy expense. The above requirements can be satisfied only when an absolute minimum of space is occupied by the driver and the necessary controls, when the C. A. dimension is such as to give good weight distribution and when a sufficiently wide front axle tread is provided to permit a small turning radius.

To the best of our knowledge the maximum of each of the above features is not obtainable in any currently manufactured vehicle.

In our various types of vehicles, i.e., linehaul, furniture and package cars, we require different body floor heights. In our linehaul trucks a floor height of about 43 inches is ideal but in our furniture and package delivery cars as low a floor level as it is possible to obtain is desirable. We achieve this end by eliminating body string-

(TURN TO PAGE 244, PLEASE)

Reduce "Per-Mile" Operating Costs!



Lubricate the LINCOLN Way!

The efficiency and economy of Lincoln Lubricating Equipment has proved to thousands of fleet operators that it *does pay to lubricate the Lincoln way.*

From single portable units, such as illustrated, to complete installations—you can depend on Lincoln Lubricating Equipment to give added service life to your rolling stock. Lincoln Wholesalers are located in all principal cities. They have complete stocks and factory trained men who can help you in the selection of a single unit or in planning a complete lubrication department.

MODEL 346-P
SINGLE CYLINDER, HIGH-PRESSURE CHASSIS LUBRIGUN — Air-operated — Portable — 100-lb. Drum Size . . . Dispenses all types of chassis lubricant direct from original 100-lb. refinery containers under high-pressure. Operation of pump is fully automatic with positive control of lubricant flow at all times.

MODEL 435
GEAR LUBRICANT DISPENSER — Air-operated — Portable — 100-lb. Drum Size . . . Indispensable for quickly and economically servicing transmissions and differentials. Dispenses lubricant direct from original 100-lb. refinery containers.

MODEL 244
ELECTRIC LUBRIGUN — Electric Motor Operated — Portable — 30-lb. capacity. Equipped with positive displacement pump and powered by standard make ¼ H. P. Universal Motor for 110/115 Volt, A. C. or D. C. Ideal for lubricating fleets where air is not available.

MODEL 987
POWERLUBER — SINGLE CYLINDER, HIGH-PRESSURE CHASSIS LUBRIGUN — Air-operated . . . Ideal for servicing small fleets or as a utility unit. Dispenses lubricant direct from 25- or 50-lb. original refinery packages placed in the container, or the container itself will hold 60-lbs. of lubricant in bulk. Sturdily constructed of heavy-gauge steel, this unit is dust-proof and spill-proof. Available with or without two wheel truck.

Lincoln is the originator of the Recessed Surface Chassis Grease Fitting—the new, modern fitting with the ball in the top.

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948-27

See LINCOLN — Booths D-208 to D-216 A. S. I. Show

What Fleetmen Want in Trucks

(CONTINUED FROM PAGE 242)

ers and cross-bolsters, using instead chassis outriggers for floor support. In some cases the chassis frame is eliminated entirely.

As to mechanical features, we look for economical maintenance and operation. Our costs have, of course, been affected in recent years by substantial increases in the wages of drivers, mechanics and others concerned with the operation and maintenance of our vehicles. Manufacturers of trucks and parts have the opportunity through improved machine processes and production methods to partially offset the increases in their cost of labor. However, there does not appear to have been enough improvement in the design of commercial vehicles during recent years to reduce substantially the number of man-hours required to economically keep such vehicles in a satisfactory operating condition.

END

(Please resume your reading on P. 95)

there's field "Know-How" in "ON THE JOB" design

Illustration shows 15½ cubic yards capacity Marion body mounted over HD-10 hoist, a popular coal hauling unit in the West Virginia stripping area.

Marion field-experienced engineers analyze hauling and dumping problems right "on the job" under actual working conditions. This first hand "know-how" is built into every Marion Body and Hoist. This "On The Job" design is your assurance that Marion equipment is built to handle the "toughest" hauling or dumping job. For literature, prices and further information, write direct or to your nearest Marion Distributor.

MARION
DUMP BODIES and HYDRAULIC HOISTS

MARION METAL PRODUCTS CO.
MARION, OHIO

Statistically Speaking

(CONTINUED FROM PAGE 77)

Of these, 529,647 were for military use, making the civilian production estimate, 567,363. Assuming a scrappage of 20 per cent, which may be high since it includes recent as well as early production, a reasonable estimate for total commercial trailers now in civilian use would be in the vicinity of 450,000.

86% of Trucks in Private Use

OF the 7,250,000 currently registered trucks, it is estimated that 6,289,375 or 86.75 per cent are in the Private or Other Than for Hire Group of Property Carriers while the For-Hire or Common Carrier Group number 960,625 or 13.25 per cent of the total trucks registered. Agriculture leads in vocational use of trucks followed by consumer distribution with construction industries running third. These three vocational groups account for about 59 per cent of the trucks on the road.

Unfortunately the Property Carriers, both Private and For-Hire, were not too much interested in statistics regarding certain phases of their industry in the early days of their existence so that prior to 1929 there are no data as to the special road taxes and excise taxes paid by the truck owners of the country. However from Automobile Facts and Figures published by the Automobile Manufacturers Association we do have quite complete data for the years 1929 to 1947 inclusive, with estimates for 1948 by the author.

Over $9 Billion in Taxes

IN the 20 years, 1929 through 1948, special truck Federal, State and Local taxes have amounted to $9,234,303,000 of which $6,350,515,000 were for special road taxes and the remainder, $1,903,788,000, were Federal Excise taxes. State registration fees paid by the Property Carriers have amounted to $2,026,884,000 in that time and state gasoline taxes were $3,445,181,000, making a grand total for these two items alone of $5,472,065,000. The remaining taxes of the trucking industry covered State Motor Carrier and Trailer Fees, Special City and County Taxes, Tolls

(TURN TO PAGE 247, PLEASE)

Statistically Speaking

(CONTINUED FROM PAGE 244)

for Bridges, Tunnels, Ferries and Roads, and Federal Excise taxes.

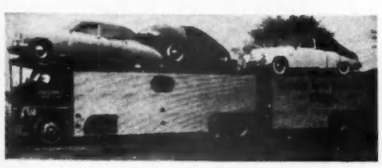
Taxes for all motor vehicles including cars, taxicabs, trucks, buses, trailers, etc., in these same last 20 years, amounted to slightly over 34 billion dollars. It is therefore evident that trucks with only 18 per cent of the motor vehicle registrations paid approximately 27 per cent of the special taxes for highway purposes.

Despite the tremendous progress that has been made, the motor truck has not yet reached maturity. From the first designed delivery wagon manufactured in 1898 which could carry a few hundred pounds of goods, it has grown in stature to special applications designed to carry well over 100,000 pounds. The few trucks in use in 1898 have grown to well over 7 million today, carrying every conceivable type of commodity. Their contribution to society canot be fully measured, but in the form of taxes they are at present contributing well over 9 billions to the tills of the Federal, State and Local governments.

END

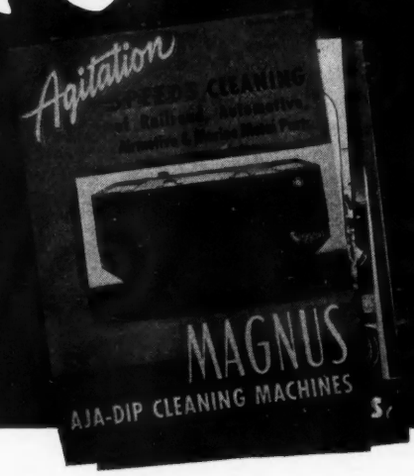
(Please resume your reading on P. 78)

5-Car Transport



The five-car carrier, one of a fleet of 45 units developed by the Kenosha Auto Transport Corp., Kenosha, Wis. Overall length is 44 ft, 10 in. The loaded maximum height is 12 ft, 6 in. The carrier's maximum width of 7 ft, 11 in. is well within the 8 ft limit specified by nearly all states. While the carrier has a 25% greater load capacity, due to its compact construction, its gross weight is only 10% more than that of the conventional carrier. This additional weight however, is evenly and advantageously distributed. The maximum empty weight of the five-car carrier is 16,000 lb; its loaded weight is determined by the weight of the cars or trucks being transported. One of the safety features is the low center of gravity which practically eliminates danger of upsetting a load. Secure front end stability is obtained through a front end assembly which has a capacity of 10,000 lb.

16 Ways TO CUT COSTS AND IMPROVE CLEANING OPERATIONS



These Magnus Bulletins Show You Why and How You Can Use Them!

MAGNUS CLEANERS AND MACHINES for those important cleaning jobs on which the economy and efficiency of your fleet operations depend can be used profitably in more than 16 ways. They will all do better work in less time, at lower cost, and in some cases do jobs that no other cleaners or machines are capable of doing. Here's a list of these 16 ways you can speed cleaning and save money.

- ☐ Desludging Engines Without Dismantling.
- ☐ Inhibiting Sludge Formation.
- ☐ Speed Cleaning of Engines and Chassis.
- ☐ Cleaning Carburetors, Fuel Pumps, etc.
- ☐ Fast, Economical Body Washing.
- ☐ Cleaning and Deodorizing Truck and Bus Interiors.
- ☐ Radiator Cleaning.
- ☐ Diesel Injector Cleaning.
- ☐ Bus Upholstery Cleaning.
- ☐ Floor Cleaning.
- ☐ Hand Cleaning and Skin Protection.
- ☐ Cold Tank Cleaning.
- ☐ Hot Tank Cleaning.
- ☐ Steam Gun Cleaning.
- ☐ Fast Paint Stripping.
- ☐ Magnus Aja-Dip Cleaning Machines.

We're ready to send you complete data on any subject listed. Just check the operations in which you are most interested, and mail this page to us.

MAGNUS CHEMICAL COMPANY
38 South Ave., Garwood, N. J.
In Canada—Magnus Chemicals, Ltd., 4040 Rue Masson, Montreal 36, Que.
Service representatives in principal cities

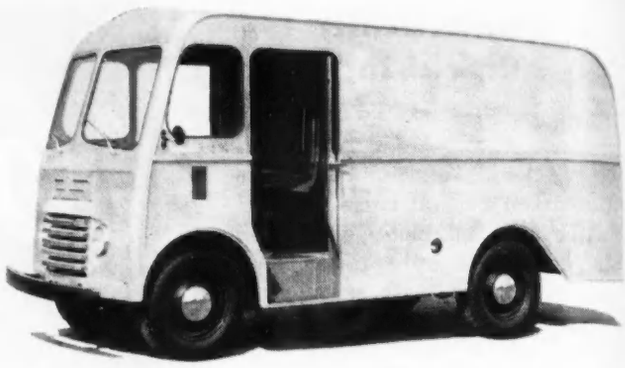
IN FLEET MAINTENANCE IT'S Magnus
CLEANERS • EQUIPMENT • METHODS

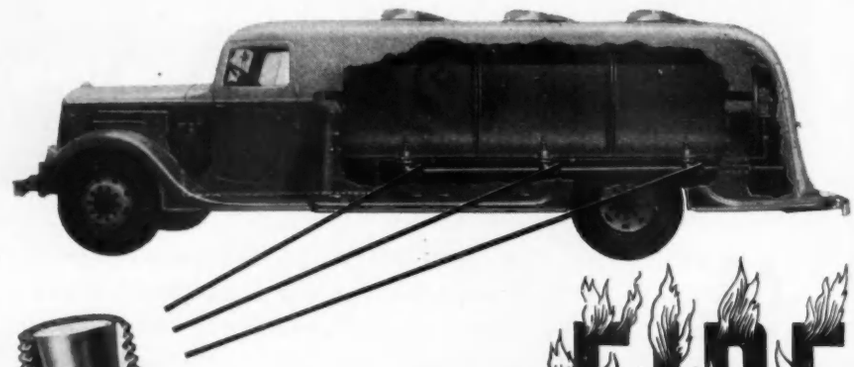
Body Show

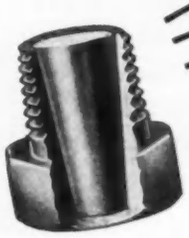
(Continued from Page 48)

Spangler . . .

Brand new from the D. H. Spangler Sales & Engineering Co., Hamburg, Pa., is the all-aluminum delivery unit shown. It is mounted on Ford 6-cyl F-3 chassis. The Spangler-built body features single wall ⅛-in. aluminum panels, sliding side doors and single panel rear door which swings inside width of body, and exceptional accessibility to engine (see cut below with front panel removed). Total weight 4690 lb. Inside dimensions 6 x 6 x 10½ ft.







IN CASE OF FIRE

The little fusible plugs shown above are so small that you can hold a dozen of them in your hand, but in petroleum truck tanks equipped with S.&J. Internal Hydraulic safety valves, they perform a mighty important service. These little fusible plugs are inserted in the hydraulic line at strategic points. When hydraulic pressure is applied, the SAFETY valves open. When the pressure is released the SAFETY valves close under spring tension. Should a fire occur while the valves are open, during unloading operations, the fusible metal in these plugs melts at 165 F.—less than the amount of heat generated by a lighted match —and AUTOMATICALLY releases the hydraulic pressure. The release of pressure AUTOMATICALLY closes all valves which are open. No need for anyone to rush in and try to stop the flow of gasoline manually. It is done AUTOMATICALLY and quickly, without anyone being burned. Yes, hydraulic pressure is positive—that is why the largest marketers and transporters of petroleum products use S.&J. Internal Hydraulic Safety Valves in their truck tanks.

SHAND & JURS CO.
BERKELEY, CALIFORNIA
NEW YORK CHICAGO HOUSTON LOS ANGELES SEATTLE

SHAND & JURS

Front end of Spangler unit

Gar Wood . . .

Improvements have recently been made in the design and construction of Gar Wood heavy-duty dump bodies and hoists. The photograph shows the new nested-type welded understructure for maximum strength with minimum weight, reduced mounting height and elimination of floor plate sag. The heavy-duty cam and roller hoist has a rolling wedge action that provides the maximum lifting force at beginning of lift where it is needed, and with low oil pressure. The cams are now placed on the outside of

(Turn to next page, please)

Design Patented

7712-7714-7716 Primary Wire in 7 Colors

7710 in 2 Colors

for More "Miles of Service"

BATTERY CABLES • SPARK PLUG WIRES
LIGHTING WIRES
CORDLITES, EXTENSION CORDS, AND TOOLS

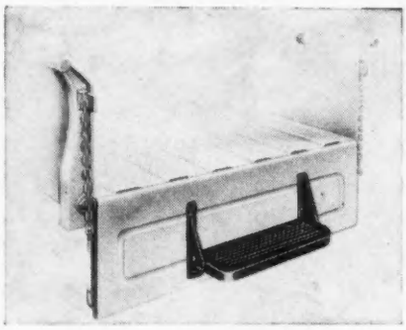
Belden *Automotive* **WIRE**

Body Show

(Continued from Page 248)

the steel tracks to provide greater stability. Additional strength has also been built into body at rear corner posts and by means of a full-width rear crossmember.

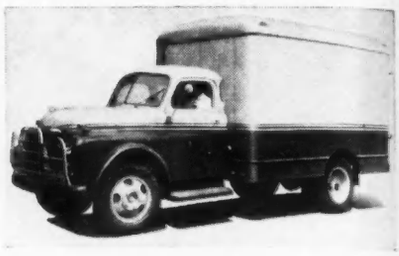
Turk Step . . .



A new "Caravan" folding tail gate step for pick-up trucks brings an added convenience at very low cost ($3.95). When tail gate is up the step folds automatically; when down, step lowers for use. Made by C. K. Turk Corp., South Bend, Ind.

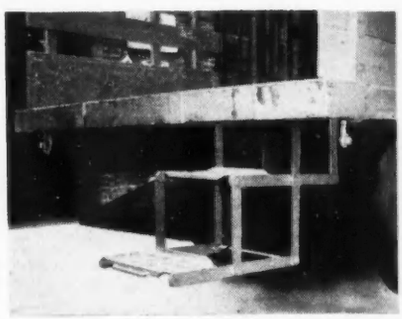
Fused Fabric
Norma Industrias
"THE STANDARD OF THE INDUSTRY"
Fused Fabric
leads Rusco's
best seller list...
Not in years has an automotive friction product created such excitement as Fused Fabric Brake Lining! This revolutionary new lining is an example of the same engineering skill that makes every Rusco Brake Lining and Clutch Facing a "best seller!"
Rusco Moulded Clutch Facings
(Passenger & Heavy Duty)
Group Segments
Ace Industrial Woven Brake Lining
Heavy Duty Blocks
RUSCO
BRAKE LINING AND CLUTCH FACINGS
"The Standard of the Industry"
THE RUSSELL MANUFACTURING CO., Middletown, Conn.
Fused Fabric Brake Linings
Fused Fabric Clutch Facings
NEW
Boxed Blocksets
Discover the secret of
Fused Fabric at the
A.S.I. show
CHICAGO—December 6 to 10

Electric Boat . . .



"Armorlite" van bodies utilizing magnesium extrusions for framework and aluminum panels are available in sizes from 9 to 20 ft. Made by the Electric Boat Co., Groton, Conn., they feature a great variety of door arrangements and all have inside width of 88 in., height of 78 in.

Truk-Step . . .



Truk-Step Co., Inc., Burbank, Cal., makes a line of collapsible truck steps with beds varying from 48 to 54 in. from the ground. Easily mounted on side or rear, Truk-Steps are built to hold 1000 lb. load, feature an automatic release if the truck should be backed into an obstruction.

END

(Please resume your reading on P. 49)

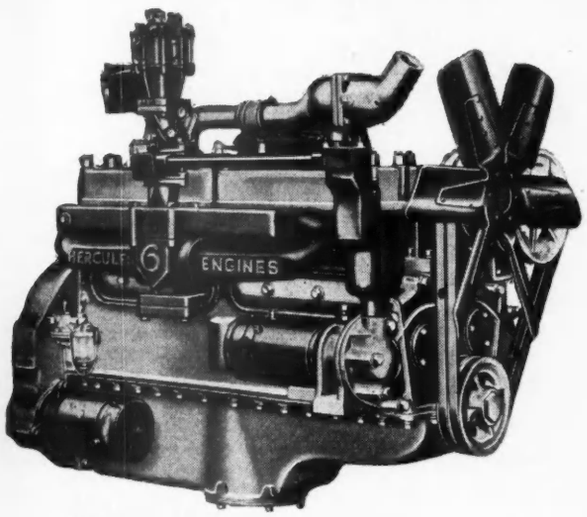
HEADS TRAINING COMMITTEE

Election of J. Willard Lord, safety engineer of the Atlantic Refining Co., as chairman of the National Advisory Committee for Motor Vehicle Fleet Supervisor Training, has been announced following a meeting of the committee at Pennsylvania State College. Mr. Lord succeeds Julien H. Harvey, managing director, Accident Prevention Department, Association of Casualty and Surety Companies.

Clarifying its status in the fleet training program, the committee emphasized that in the future it will function in an advisory capacity only. Full direction of the program has now been assumed by the Institute of Public Safety of the Pennsylvania State College.

Two Major
HERCULES ENGINE DEVELOPMENTS THAT MEAN MORE POWER TO YOU

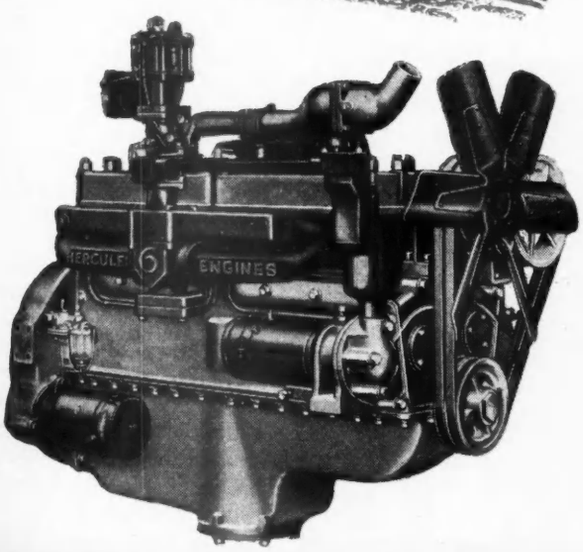
The heavy demands on the trucking industry today places a major responsibility on the power plant installed in your trucks. Hercules, being fully aware of the need for more and more power, rounds out its line of dependable, high speed, heavy duty Diesel and gasoline truck engines with two more gasoline engines. Built to Hercules' exacting standards, they are the last word in operating efficiency and economy — dependable performance — long life service. In other words, they are built for grueling truck transportation service.



160 H.P. at 2600 R.P.M.

HERCULES
MODEL TDXB

The Hercules Model TDXB is a 6 cylinder gasoline engine with a 4-3/8" bore and 5-1/4" stroke and a piston displacement of 474 inches. It is a high speed, heavy duty engine with extra power built into it through enlarged intake and exhaust porting, proper manifolding and valves. Thus, maximum power and compact engine design go hand in hand in the Model TDXB. Other Hercules features include: seven bearing, Tocco-hardened, counterbalanced crankshaft; copper-lead lined main and rod bearings bored in place; full floating piston pins, and many others. Write for full details about the Hercules Model TDXB that means more power to you.



180 H.P. at 2600 R.P.M.

HERCULES
MODEL RXLDH

The Hercules Model RXLDH is a 6 cylinder gasoline engine with a 4-3/4" bore and 5-1/4" stroke and a piston displacement of 558 inches. It is a high speed, heavy duty engine that puts still greater power opportunities into the hands of truck operators, plus a dependability that exemplifies the outstanding service built into every Hercules engine. It follows the same fundamental principles of design as the Model TDXB and in addition to the features recorded above, both models share the advantages of: valve rotators that prevent valve burning and sticking; packless seal water pump of high capacity; large capacity oil pump, and numerous other desirable features. Write for complete information.

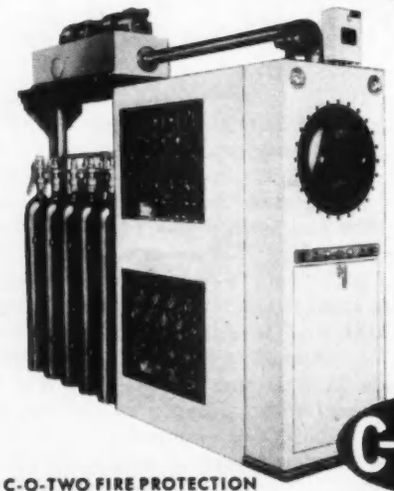
HERCULES MOTORS CORPORATION

CANTON, OHIO

C-O-Two helped a leading department store solve a fire protection problem

Fire, even a small one, can spread rapidly . . . create panic . . . loss of good will, equipment, buildings and human lives.

Twenty of the electric stairways at Marshall Field & Company in Chicago are now protected from fire by C-O-TWO. Little chance of cigarette butts, matches, overheated motors, or short circuited electrical equipment starting a disastrous fire. The C-O-TWO Combination Smoke Detecting and Fire Extinguishing System automatically detects smoke in the machinery room and the housing of these electric stairways. Upon a signal, non-damaging carbon dioxide is released into the threatened area, controlling the fire before panic and costly damage takes place.



C-O-TWO FIRE PROTECTION EQUIPMENT INSTALLED AT THE MAIN FIRE STATION
left to right — carbon dioxide cylinders, blowers, control valve cabinet and smoke detecting cabinet.

Whether your fire protection problem is a store, garage, factory, truck, ship or refinery, an expert C-O-TWO Fire Protection Engineer can help you plan and install adequate fire protection equipment.

Write us today for your free copy of the test report on this installation.

C-O-TWO

C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY
Sales and Service in the Principal Cities of United States and Canada
AFFILIATED WITH PYRENE MANUFACTURING COMPANY

HIGHWAYS

(CONTINUED FROM PAGE 104)

ment of urban and suburban rail systems.

The average truck mileage was estimated at about the same as for the family car. This does not show the real picture, however. At the same time, fleet-owned and other commercially operated trucks were rolling up annual mileages of 20,000 to 30,000 miles.

In so doing, they were transporting as much as 40 per cent of the fresh produce, 50 per cent to 60 per cent of the livestock, and up to 70 per cent (wholly and partly) of lumber. Practically all of the nation's milk supply moves by truck.

Last year, it is estimated, freight transport by truck totaled at least 85 billion ton-miles. Because of rising rail rates, current industrial trends toward f.o.b. pricing, and other factors, a sizable growth in overland freight transport is expected in 1948 and the future.

3 Million Miles

THIS is what must carry this growing volume of motor traffic—three million miles of highways (exclusive of a quarter-million miles of streets) of which half or 1.5 million miles have surfacing of some type.

About 550,000 miles are under state supervision, of which 350,000 miles comprise the so-called primary system. Roughly, about 450,000 miles of the total have surfacing although not always adequate to meet the demands placed upon it.

The remaining 2,450,000 miles of rural highways are under supervision of the counties and townships. Less than 45,000 miles have high-type paving and about 90,000 have bituminous surfacing. This system also includes 788,000 miles of non-treated surfacing and 613,000 miles which have been graded and drained. A no more flattering title can be applied to the remainder than wagon roads although farm trucks and school buses must use some of them regularly.

It is impossible to predict very far into the future with any reasonable degree of accuracy. A great deal depends upon funds and, at present, the materials and labor supply.

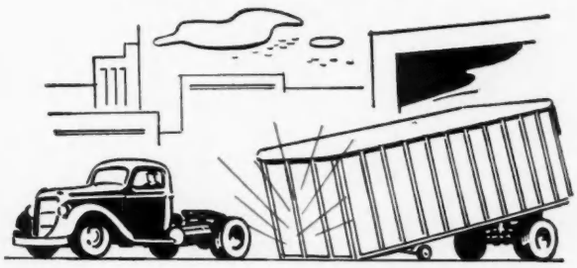
Highway planners, both in and out of government, frankly hope that the present $1.5 billion rate of expenditure for road construction will be doubled by 1950. As far as cash is concerned, this is not too impossible; the Federal Aid act provides a half billion to be matched; highway user taxes should exceed the prewar $2.2 billion. The

(TURN TO PAGE 256, PLEASE)

HERE'S MORE PROOF that bodies of Alcoa Aluminum are strong

Case of the trailer that took a 12-ton sock on the nose

The "BAD NEWS"



The operator of a large fleet of aluminum monocoque semitrailers reported this incident . . . one of these trailers, loaded with 25,000 pounds of freight, was dropped on its nose when the tractor was accidentally pulled from under it. There was a free fall of 3½ feet.

The "GOOD NEWS"

The trailer was jacked up and given a thorough inspection. *Not a single failure could be found!* Even after taking a 12-ton sock on the nose, its strong, massive aluminum structure needed no repairs.

• • •

When aluminum bodies are damaged, you can repair them fast, at low cost, right in your own shop, without the need of special welding equipment. Another practical reason why more and more fleet owners are switching to premium truck and trailer bodies of Alcoa Aluminum!

The "Old Timers" prove bodies of Alcoa Aluminum LAST LONGER!

ALCOA FIRST IN ALUMINUM

ALCOA ALUMINUM 1888 1948 60 YEARS OF SERVICE

HIGHWAYS

(CONTINUED FROM PAGE 252)

catch is that various amounts of the latter total are often diverted to other purposes.

Plan for the Future

A GENERAL plan covering the next ten years has been taking form, however. For one thing, the Public Roads Administration expects to be able to extend federal aid to an additional 150,000 miles within the decade.

Under the plan now shaping up, this would bring 750,000 miles of primary and secondary roads under the system. While this takes in only about a fourth of the total mileage, the PRA estimates that it would carry upwards of 90 per cent of total rural (other than city) traffic.

This now includes about 37,500 miles of the major long distance routes; another 2500 miles would be added to this mileage under the plan. It also includes some 230,000 miles of general highways on which the present surfacing would be replaced with better and more durable paving.

The studies include location, design, safety factors, construction methods, paving materials, and financing. The job ahead is expensive, a big one, and will be a long time in completion—if ever. But it is moving ahead.

END

(Please resume your reading on P. 105)

The First Gasoline Wagon

(CONTINUED FROM PAGE 70)

that such vehicles were makeshifts—isolated conversions of passenger cars and not commercially available, or experimental jobs which never got into production. For example:

In the first issue of *The Horseless Age* there are two mentions of "business wagons," as trucks were called back in those days. Richard F. Stewart, of Pocantico Hills, N. Y., was reported "experimenting on a method of applying power" to a business wagon, using a 2-hp. Daimler motor. A sketch of the business wagon accompanies the item. Subsequent issues do not report the result of Mr. Stewart's efforts, as is generally the case with experiments.

In that same issue, Garry Schleicher, of Schleicher & Sons, piano manufacturers of Stamford, Conn., was said to have "about completed a business wagon, one of the novel features of which is the wheels." These wheels were of corrugated stamped steel surrounded by a heavy rim of the same material. The hind wheels weighed "about 100 lb. apiece." Mr. Schleicher apparently realized he had to save weight somewhere and so his "hubs are of aluminum, securely bolted to the steel." There is no evidence to indicate what happened to this corrugated contraption. However, it may have been the first of the disk wheels applied to motor vehicles.

The May, 1896, issue reports that "The Lengert Co., well known wagon builders of Philadelphia, Pa., have entered in the *Cosmopolitan* race a motor delivery wagon, which they are making preparations to manufacture in considerable numbers." It had a single-cylinder engine with a bore of 5⅜ in. and a stroke of 5½ in. Built "on an original plan" it gave "variable horsepower from 4

(TURN TO PAGE 258, PLEASE)

We Clean a truck in 20 minutes with
HYPRESSURE Jenny
It used to take one man half a day to do it by hand."
SERVICE DIVISION
Full Powered Heavy-Duty All-Purpose Models from $445 to $595

Everywhere, profit-minded truck and bus owners, like the one quoted above, are using Hypressure Jenny to cut cleaning and repair time on motors, chassis, parts, etc. They are reducing lay-up time as much as 40% by Hypressure Jenny steam cleaning their trucks before their mechanics start working on them. Besides saving labor they are getting equipment back on the road in practically half the time.

Hypressure Jenny steam cleaning increases pay loads by removing road dirt that often adds as much as 400 lbs. to the load . . . exposes broken or worn parts for repair before road failures occur . . . reduces fire hazards. Hypressure Jenny cleans floors, grease racks, pits, tools, walls, windows, etc., etc., 8 to 10 times faster than by hand cleaning methods.

Hypressure Jenny will do it for you too. Let us prove it.

Mail the coupon today.

MAIL TODAY!
We'll make a FREE SURVEY of your cleaning requirements and estimate the savings you can effect with Hypressure Jenny Steam Cleaner. No obligation.

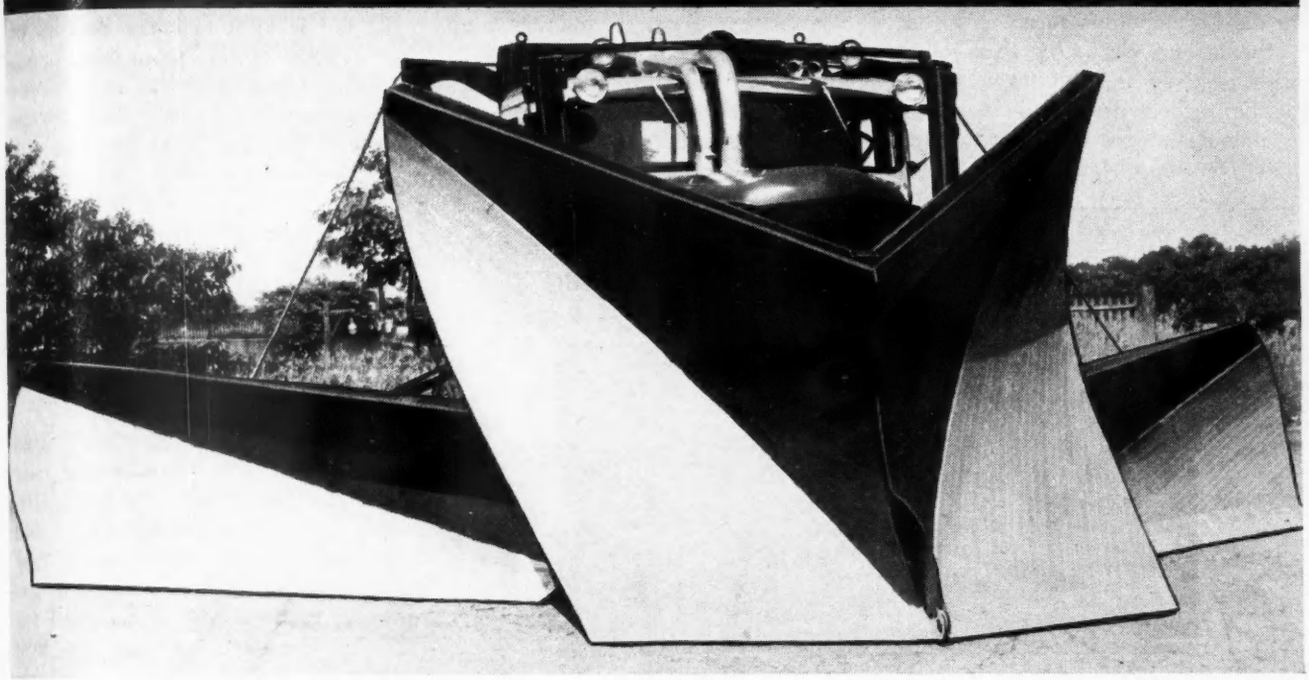
HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.
Serving Since 1892

REQUEST FOR SURVEY

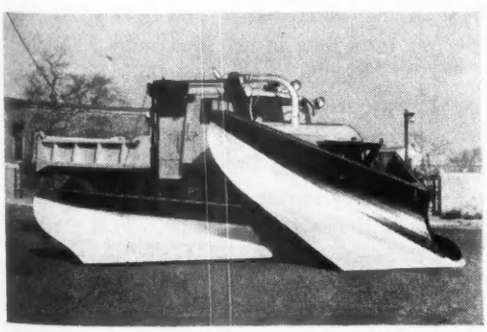
Hypressure Jenny Division
Homestead Valve Manufacturing Co., P.O. Box K-90, Coraopolis, Pa.
We employ ..... mechanics on repair work.
We overhaul or recondition . . . ☐ cars, ☐ trucks, ☐ buses each month.
We paint . . . ☐ cars, ☐ trucks, ☐ buses each month.
We're interested in cleaning ☐ floors, ☐ walls, ☐ windows, ...
We wash approximately . . . ☐ cars, ☐ trucks, ☐ buses each month.
Based on above facts, please show us the savings or extra profit HYPRESSURE JENNY can produce.

Company.....
By.....Title.....
Address.....
City.....State.....

TRUCK and PLOWS *designed as a* TEAM!



—another reason why WALTER SNOW FIGHTERS *clear snow faster!*



Powerful Walter Snow Fighters permit mounting bigger plows, wings and blades of greater capacity and faster, more efficient clearing action than any other equipment.

Specially designed to take full advantage of the great traction of Walter Snow Fighters, the Walter V front plows, offset V plows and speed plows supply high arc and correct lifting and throwing action to hurl snow far off the road, yet provide proper drivers' vision. Hydraulically controlled side wings fan out snow to give remarkable dispersion. Less snow remains to be re-handled. A greater volume of snow is removed on each run and more miles cleared per hour.

Only Walter Snow Fighters, with the superior traction of the Four-Point Positive Drive, can provide the great pushing power and speed to effectively use these high-capacity plows, as well as the Walter pressure center scraper blade.

See your distributor for full details on Walter Snow Fighters—or write us for literature.

WALTER MOTOR TRUCK CO.

1001-19 Irving Ave.
Ridgewood 27, Queens, L. I., N. Y.

WALTER SNOW FIGHTERS

The First Gasoline Wagon

[CONTINUED FROM PAGE 256]

hp. to 13½ hp." The horsepower must have been variable indeed because the vehicle never showed up in the Cosmopolitan race.

Steam and electricity were vying with gasoline for the favor of the public in those days. It is, therefore, of passing interest to report that the first *Horseless Age* mention of a steam-propelled motor van appeared in the December, 1896, issue. The Cruickshank Steam Engine Works, of Providence, R. I., took one of its steam engines, unhitched two horses from one of the vans operated by Shepard & Co., large Providence department store, substituted the engine for the horse power and came up with a "steam van for delivering furniture and other household goods." There is no record that Cruickshank ever built or offered for sale a complete delivery vehicle.

Credit for building the "first commercial electric delivery wagon in the U. S." is given by *The Horseless Age* to Riker Electric Motor Co., Brooklyn, N. Y., in its issue of October, 1898, which carries a photograph of a job built for B. Altman & Co., New York City. It "weighs 2900 lb. and is built to carry 800 lb. of goods in addition to two men. It has a capacity of 20 miles at a 9-mile rate over city streets." The storage battery weighed 1000 lb. The job was built earlier that year because an item in the May, 1898, issue carried the news that the Altman delivery wagon had been exhibited by Riker at the Electrical Exposition in Madison Square Garden and that it was "the model from which a larger number are to be furnished this enterprising merchant."

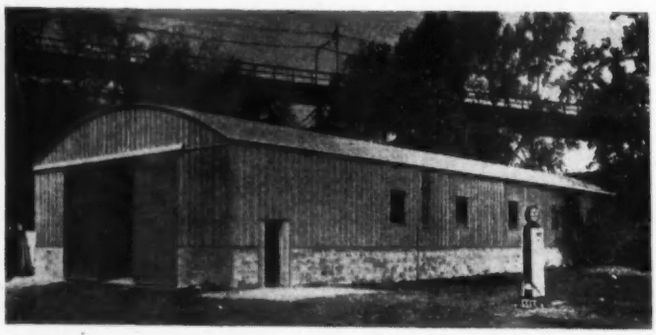
The term "first commercial" used by *The Horseless Age* in the case of both gasoline and electric delivery wagons, seems deliberate and pointed. But whether it meant "the first gasolene delivery wagon expressly engineered and designed for commercial purposes" or "the first gasolene delivery wagon available commercially" cannot be fathomed. Either definition renders this 1898 Winton eligible as the first gasoline vehicle in this country expressly designed and offered for sale as a motor truck, as we call delivery wagons today. The year 1948, therefore, is its Golden Anniversary—a Jubilee commemorated with the special material in this issue of the oldest motor truck publication in the world.

In the 50 years that have elapsed the motor truck has come a long way. The handful of trucks manufactured in 1898 has grown year after year until today the annual production rate is over one million. More than 18 million trucks have been manufactured in those 50 years. The total now in use is around 7,250,000.

But in spite of the tremendous progress that has been made, the motor truck has not yet reached its full stature. The maximum economic use of motor trucks and of highways still lies in the future. To the attainment of this goal the energies of truck producers and truck users should be unstintingly devoted.

END

(Please resume your reading on P. 71)



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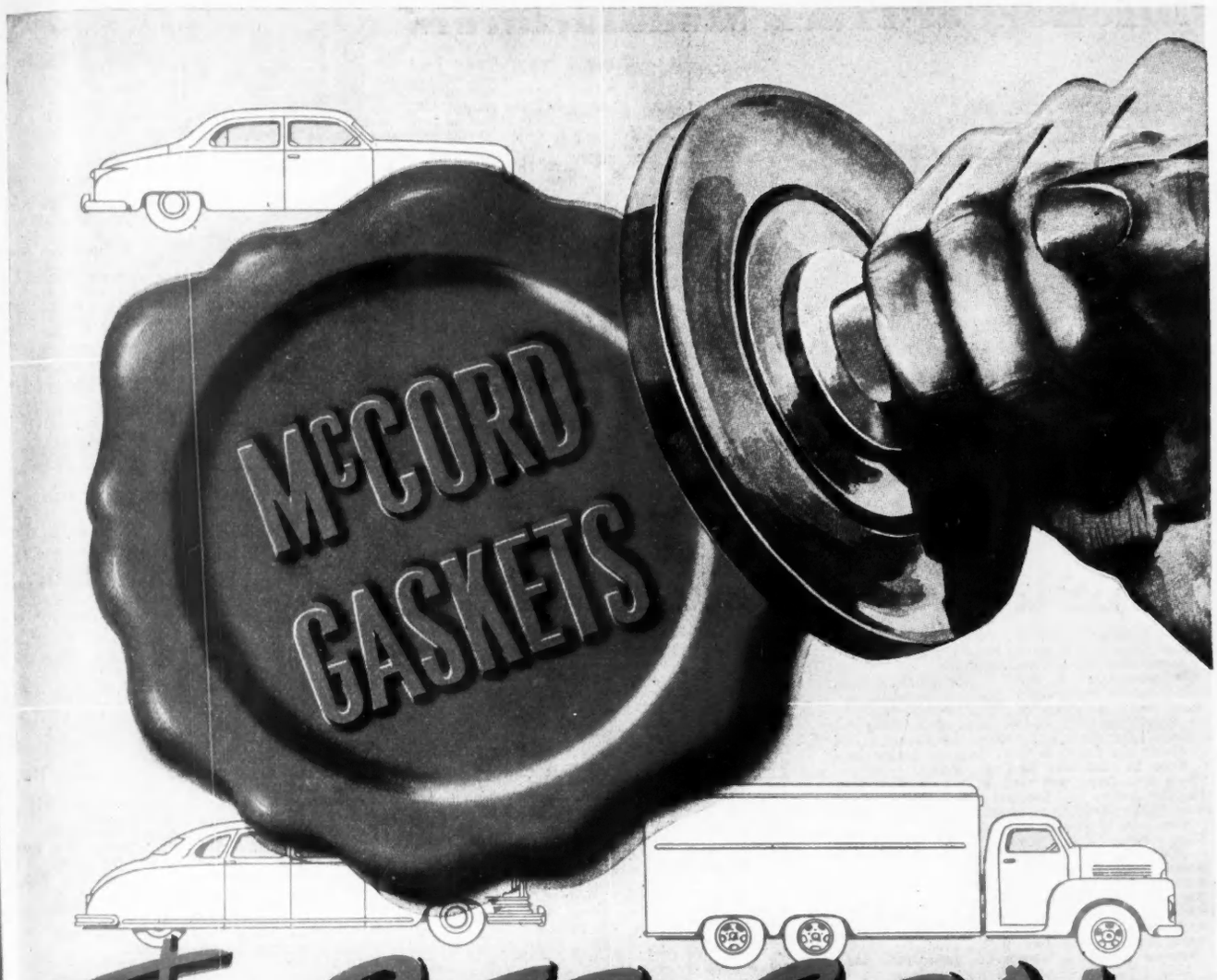

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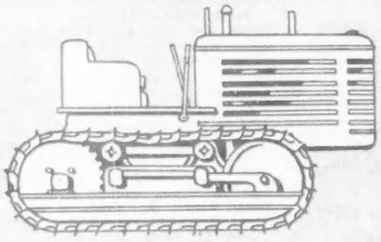


McCORD CORPORATION

DETROIT 11, MICHIGAN

Directory of Truck Manufacturers

(Continued from Page 84)

*Linn Mfg. Corp., Morris, N. Y., 1916
Linn Mfg. Corp., Div. LaFrance Republic Motor Truck Co., Alma, Mich., 1928
*Linn Coach & Truck Div., Great American Industries, Inc., 1938; formerly Linn Trailer Corp., 1929
Lion Motor Truck Co., Pittsburgh, Pa., 1911
Lippard-Stewart Motor Truck Co., Buffalo, N. Y., 1911
(Little Giant) Chicago Pneumatic Tool Co., Chicago, Ill., 1912; taken over by Giant Truck Corp.
Logan Construction Co., Chillicothe, Ohio, 1905; taken over by J. H. Blacker & Co.
Lombard Auto Tractor Truck Corp., New York, N. Y., 1918; taken over by Jas. J. Barron
Lone Star Motor Truck & Tractor Co., San Antonio, Texas, 1920
Long Island Auto Truck Co., New York, N. Y., 1913
Longest Bros., Louisville, Ky., 1925
Lord Balytimore Motor Truck Co., Baltimore, Md., 1910
Lovelace Engr. Co., Inc., New Brunswick, N. J., 1916
Low-Bed Motor Truck Corp., New York, N. Y., 1929
Loyal Motor Truck Co., Erie, Pa., 1918
Lozier Motor Co., Detroit, Mich., 1911
Ludlow Auto Engr. Co., Philadelphia, Pa., 1914
Luedinghaus-Espenschied Wagon Co., St. Louis, Mo., 1920
Luverne Automobile Co., Luverne, Minn., 1912
Lyon Motor Truck Co., Pittsburgh, Pa., 1911

M

M & P Electric Vehicle Co., Detroit, Mich., 1912
(M.P.C.) Milwaukee Parts Corp., Milwaukee, Wis., 1926
Maccar-Pittsburgh Truck Co., Pittsburgh, Pa., 1931
Maccar Truck Co., Scranton, Pa., 1912; later Maccar-Selden-Hahn Truck Corp., Allentown, Pa.
*MacDonald Truck & Mfg. Co., San Francisco, Cal., 1919; built first truck in 1920
Mack Bros., Brooklyn, N. Y., 1899; first motor vehicle built in 1900; later Mack Bros. Motor Car Co., Allentown, Pa., 1905; consolidated with Hewitt and Saurer in 1911 becoming International Motor Co., and later Mack Mfg. Corp.
*Mack Mfg. Corp., New York, N. Y.; see Mack Bros.
Maibohm Motors Co., Sandusky, Ohio, 1918
Mais Motor Truck Co., Indianapolis, Ind., 1910; taken over by Premier Motor Mfg. Corp.
Manly Motor Corp., Chicago, Ill., 1919; later O'Connell Motor Truck Co.
Mansur Motor Truck Co., Haverhill, Mass., 1912
Marathon Motor Works, Nashville, Tenn., 1912
Marinette Motor Car Co., Marinette, Wis., 1912
Marion Motor Car Co., Indianapolis, Ind., 1906
Markey Mfg. Co., Mt. Clemens, Mich., 1912
Marks, Harry J., New York, N. Y., 1902
(Marmon) Nordyke & Marmon Co., Indianapolis, Ind., 1912
*Marmon-Herrington Co., Inc., Indianapolis, Ind., 1931
Marquette Motor Truck Co., Chicago, Ill., 1910
Marshall Mfg. Co., Chicago, Ill., 1919
Martin Carriage Works, York Pa., 1910
Martin Motor Truck Co., Waverly, N. Y., 1930
Marwin Motor Truck Co., Kenosha, Wis., 1918; merged with Winther Motor Truck Co.
(Mason Road King) Durant Motors, Inc., Albany, N. Y., 1921
Mason Motor Truck Co., Waterloo, Iowa, 1912
Mason Motor Truck Co., Flint, Mich., 1924
Master Motor Truck Co., Chicago, Ill., 1917
Matheson Motor Car Co., Wilkes Barre, Pa., 1906
Maxfer Truck & Tractor Co., Chicago, Ill., 1916
Maxim Tricar Mfg. Co., New York, N. Y., 1913
Maxwell-Briscoe Motor Co., Tarrytown, N. Y., 1904; taken over by Maxwell Motor Co.
Maxwell Commercial Coburn Draper Motor Co., Boston, Mass., 1916
Maxwell Motor Co., Detroit, Mich., 1913
Maytag-Mason Motor Co., Des Moines, Iowa, (c. 1907)
McCarron Corp., W. E., Chicago, Ill., 1928
McFarlan Motor Co., Connersville, Ind., 1916
McIntyre Co., W. H., Auburn, Ind., 1909; taken over by DeKalb Mfg. Co.
Megow Co., C. F., Milwaukee, Wis., 1909; later Milwaukee Auto Truck Co.
Meiselbach Motor Vehicle Co., A. D., N. Milwaukee, Wis., 1904; later Mitchell Lewis Motor Co.
Menges Motor Co., Greensville, Miss., 1922
(Menominee) Poyer Co., D. F., Menominee, Mich., 1911; later Menominee Motor Truck Co.
Menominee Electric Mfg. Co., Menominee, Mich., 1910
Menominee Motor Truck Co., Menominee, Mich, 1916; later Utility Supply Co.
Merchants Automobile Co., Chicago, Ill., 1912
Mercury Mfg. Co., Chicago, Ill., 1911
Mercury Motor Truck Co., Boston, Mass., 1911
Meserve Autotruck Co., Metheun, Mass., 1902
Metropolitan Automobile Works, Chicago, Ill., 1912
Metropolitan Motors, Inc., New York, N. Y., 1916
Metz Co., Waltham, Mass., 1909
Metzger Motor Car Co., Detroit, Mich., 1909; taken over by Everett Motor Car Co.
Michigan Automobile Co., Kalamazoo, Mich., 1907
Michigan Hearse & Automobile Co., Grand Rapids, Mich., 1913
Michigan Steam Motor Co., Pontiac, Mich., 1907
Mid-West Steam Motor Co., Laramie, Wyo., 1924
Midland Motor Car Co., Oklahoma City, Okla., 1918
(Milburn) Fashion Automobile Station, Chicago, Ill., 1924
Milburn Wagon Co., Toledo, Ohio, 1915
Miller Garage Co., Bridgeport, Conn., 1906
Mills-Ellsworth Co., Keokuk, Iowa, 1916
Milwaukee Automobile Co., Milwaukee, Wis., 1901
(Milwaukee) Smith Co., A. O., Milwaukee, Wis., 1912
Minneapolis Motor Car Co., Minneapolis, Minn., 1920
Minneapolis Motor Cycle Co., Minneapolis, Minn., 1912
Mission Motor Truck, Los Angeles, Cal., 1914
Missouri Motor Car Co., St. Louis, Mo., 1912
Mitchell-Lewis Motor Co., Milwaukee, Wis., 1910; formerly Meiselbach Motor Vehicle Co.
Mitchell Motor Car Co., Racine, Wis., 1905; taken over by Mitchell-Lewis Motor Co.
Model Gas Engine Co., Peru, Ind., 1906; later Model Automobile Co.
(Modern) Bowling Green Motor Car Co., Bowling Green, Ohio, 1911
Modern Motor Truck Co., St. Louis, Mo., 1911
Mogul Motor Truck Co., Chicago, Ill., 1911; taken over by Dorris Motor Car Co.
Mohawk Motor Truck Co., Ravenna, Ohio, 1916
Monarch Light Truck Co., Milwaukee, Wis., 1916
(Monarch) Ruggles Metal Products Co., Grand Rapids, Mich., 1926
Monitor Automobile Works, Janesville, Wis., 1908
Moon Buggy Co., Jas. W., St. Louis, Mo., 1912; later Moon Motor Car Co.
Moore Co., F. L., Los Angeles, Cal., 1912
Moore & Son Corp., S. L., Elizabeth, N. J., 1917; taken over by Bethlehem Motors Corp.
Moore Motor Truck Co., Toledo, Ohio, 1911
Mora Power Wagon Co., Cleveland, Ohio, 1911
Moreland Motor Truck Co., Los Angeles and Burbank, Cal., 1911
Morgan Motor Truck Co., Worcester, Mass., 1909
Morse Cyclecar Co., Pittsburgh, Pa., 1916
Morse Motor Car Co., So. Boston, Mass., 1913; formerly Easton Machine Co.
Morton Truck & Tractor Co., Harrisburg, Pa., 1912
Moses & Morris Motor Corp., Chicago Heights, Ill., 1920
Motor Car Co., Sioux Falls, S. D., 1914
Motor Chassis Co., Auburn, Ind., 1912
Motor Conveyance Co., Milwaukee, Wis., 1911
Motor Truck Co., St. Paul, Minn., 1912
Motor Vehicle & Marine Const. Co., Sewarren, N. J., 1912
Motorcar Co., Detroit, Mich., 1906
(Motokart) Tarrytown Motor Car Co., New York, N. Y., 1913; later Motokart Co.
Motokart Co., New York, N. Y., 1914; formerly Tarrytown Motor Car Co.
Muehlhauser Machine Co., Cleveland, Ohio, 1912
Muncie Motor Truck Co., Muncie, Ind., 1912
Murray Motor Truck Co., Oak Park, Ill., 1906
Muskegon Engine Co., Muskegon, Mich., 1918
Muskegon Truck Corp., Muskegon, Mich., 1917
Mutual Motor Truck Co., Sullivan, Ind., 1919
Myers Co., E. A., Pittsburgh, Pa., 1918
Myers Machine Co., Sheboygan, Wis., 1916; taken over by Wisconsin Motor Truck Co.

N

(N.T.A.) National Trucks Associated, Chicago, Ill., 1918
Napoleon Motors Co., Traverse City, Mich., 1918
Nash Motors Co., Kenosha, Wis., 1916
(Natco) National Motor Truck Co., Bay City, Mich., 1911
National Motor Truck & Mfg. Co., Toledo, Ohio, 1913
National United Service Co., Detroit, Mich., 1914
Neilson Motor Car Co., Detroit, Mich., 1906
Nelson & LeMoon Truck Co., Chicago, Ill., 1911; later Federal-LeMoon Truck Co.
(Netco) New England Truck Co., Fitchburg, Mass., 1914
Newark Auto Mfg. Co., Newark, N. J., 1911
New Haven Truck & Auto Works, New Haven, Conn., 1911
(New York) Togetmeier & Reiper Co., New York, N. Y., 1913
New York Motor Works, East Nutley, N. J., 1910
Niles Car & Mfg. Co., Niles, Ohio, 1916; taken over by Niles Motor Truck Co.
Niles Motor Truck Co., Pittsburgh, Pa., 1919
Noble Motor Truck Co., Kendallville, Ind., 1917
Nolan Motor Truck Co., Okay, Okla., 1924; later O.K. Motor Truck Co.
Norman Automobile Co., Philadelphia, Pa., 1903
Northern Motor Car Co., Detroit, Mich., 1906
Northway Motors Corp., Boston, Mass., 1916
(Northwestern) Star Carriage Co., Seattle, Wash., 1916
Norwalk Motor Car Co., Martinsburg, W. Va., 1916
Nyberg Automobile Works, Anderson, Ind., 1912

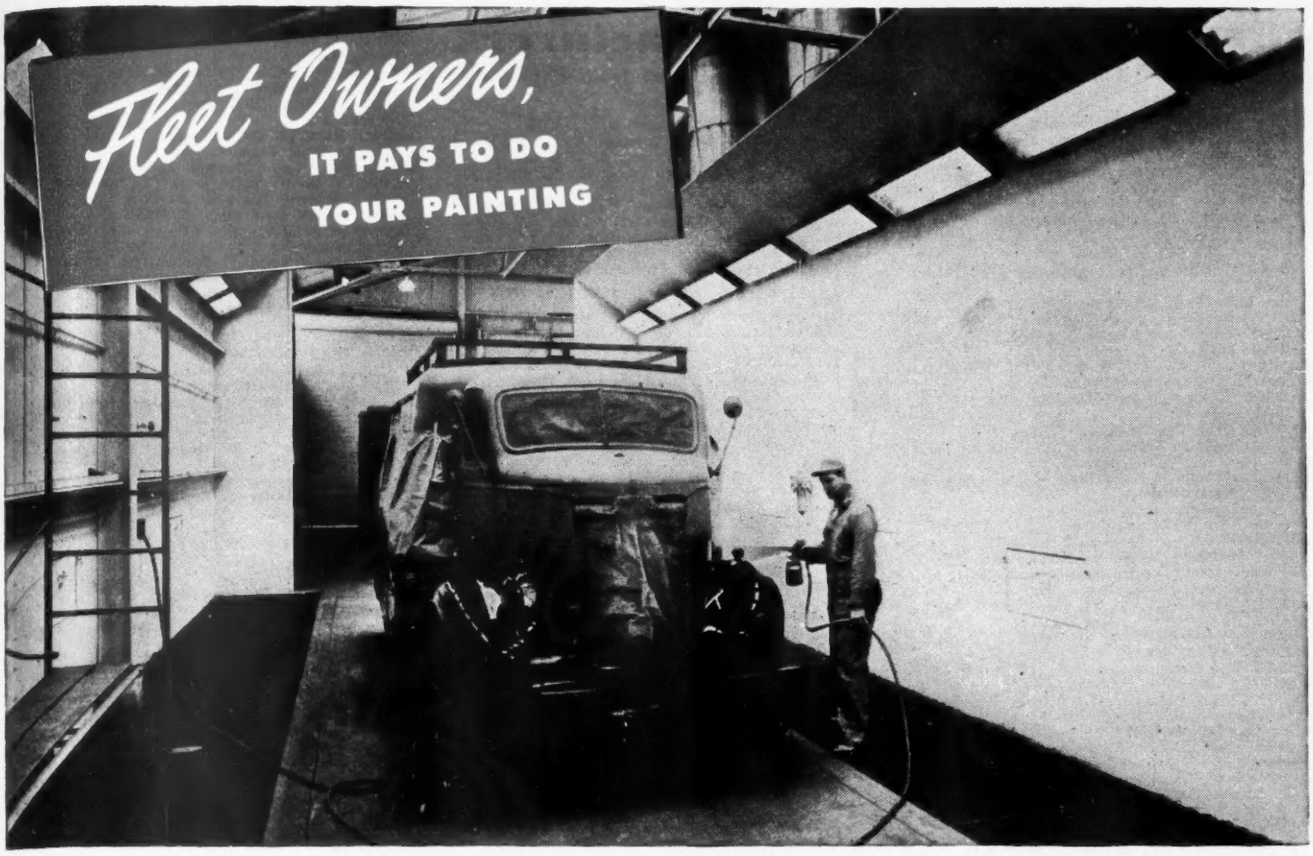
O

O. B. Electric Vehicles, Inc., Long Island City, N. Y., 1917
(OK) Oklahoma Auto Mfg. Co., No. Muskogee, Okla., 1917; later Oklahoma Truck Mfg. Co.
O. K. Motor Truck Co., Detroit, Mich., 1914
O. K. Truck Mfg. Co., Muskogee, Okla., 1924; formerly Nolan Motor Truck Co.
O'Connell-Manly Truck Co., Chicago, Ill., 1918
Ofeldt & Sons, A. W., Brooklyn, N. Y., 1901
Ogden Motors & Supply Co., Chicago, Ill., 1919; later Ogden Motor Truck Co.
Ogren Motor Car Co., Milwaukee, Wis., 1922
(Ohio) Crescent Motor Truck Co., Middletown, Ohio, 1912; later Crescent Motor Co.
Ohio Electric Car Co., Toledo, Ohio, 1912
Ohio Mfg. Co., Upper Sandusky, Ohio, 1912
Ohio Motor Car Co., Cincinnati, Ohio, 1912
Ohio Motor Truck Co., Warren, Ohio, 1909
Ohio National Mfg. Co., Chillicothe, Ohio, 1910
Ohio Universal Truck Co., Warren, Ohio, 1911
(Old Hickory) Kentucky Wagon Mfg. Co., Louisville, Ky., 1911
Old Reliable Motor Truck Co., Chicago, Ill., 1912; later Reliable Truck Co. Successor to Lee Power Co.
Olds Motor Works, Detroit, Mich., 1898; later Olds Motor Works, Div. General Motors Corp., Lansing, Mich.
Oliver Motor Car Co., Detroit, Mich., 1910; later Oliver Motor Truck Co.
Olympic Motor Truck Co., Tacoma, Wash., 1921
Omaha Motor Car Co., Omaha, Neb., 1912
Omnibus Transportation Co., New York, N. Y., 1923
(Omart) American Aggregates Corp., Greenville, Ohio, 1932
Oneida Motor Truck Co., Green Bay, Wis., 1917
(Orient) Waltham Mfg. Co., Waltham, Mass., 1907
(Orleans) New Orleans Motor Truck Mfg. Co., New Orleans, La., 1920
*Oshkosh Motor Truck, Inc., Oshkosh, Wis., 1930; successor to Oshkosh Motor Truck Mfg. Co., 1917
Otto-Mobile Co., Mt. Holly, N. J., 1912
(Overland) Willys Overland Co., Toledo, Ohio, 1908
Owens Wagon & Automobile Works, Charlotte, N. C., 1912
Owosso Motor Truck Co., Owosso, Mich., 1910

P

P.H.P. Motor Truck Co., Westfield, Mass., 1912; taken over by Westfield Motor Truck Co.
Pac-Age-Kar Corp., Chicago, Ill., 1926; later Package Car Corp.; purchased by Stutz Motor Car Co., 1932; sales and service taken over by Diamond T Motor Car Co., 1939-1945
Pace, A. G., New York, N. Y., 1901
Pacific Metal Products Co., Torrance, Cal., 1913
Packard Motor Car Co., Detroit, Mich., 1903
Packers Automobile Co., Wheeling, W. Va., 1910; later Packers Motor Truck Co.
Packers Motor Truck Co., Pittsburgh, Pa., 1910
Packet Motor Truck Co., Minneapolis, Minn., 1916
Page Bros. Buggy Co., Marshall, Mich., 1916
Page Motors Corp., Stamford, Conn., 1923
Paige-Detroit Motor Car Co., Detroit, Mich., 1909; later Graham-Paige Motors Corp.
Palmer-Meyer Motor Car Co., St. Louis, Mo., 1912
Palmer-Moore Co., Syracuse, N. Y., 1911
Panhard Motors Co., Grand Haven, Mich., 1918
(Panther) Fremont Motors Corp., Fremont, Ohio, 1920
Paragon Motor Truck Co., Auburn, Ind., 1916
Parcel Post Equipment Co., Grand Rapids, Mich., 1914; taken over by United Motor Truck Co.
Parker Motor Truck Co., Milwaukee, Wis., 1918
Parr Wagon Co., Pittsburgh, Pa., 1909
Parsons Truck Wagon Co., Newton, Iowa, 1912
Patrick Corp., Spokane, Wash., 1916
Patriot Motors Co., Lincoln, Neb., 1920
Peerless Motor Car Co., Cleveland, Ohio, 1908
Pemberton Co., Lawrence, Mass., 1901
(Pendell) Mechanics Mfg. Co., Los Angeles, Cal., 1926
Penn Motor Car Co., New Castle, Pa., 1912
Penn-Unit Car Co., Allentown, Pa., 1910
(Pennford) Penn Motors Corp., Bridgeton, N. J., 1922; then Philadelphia, Pa.
Pennsylvania Motors Co. of Pittsburgh, Pittsburgh, Pa., 1916
Perfection Truck Co., Minneapolis, Minn., 1923
*Peterbilt Motors Co., Oakland, Cal., 1939
Petrel Motor Car Co., Milwaukee, Wis., 1913
Petroleum Motors Corp., Rockford, Ill., 1923; merged with Masters Motor Truck Co.
Phenix Truck Makers, Inc., Chicago, Ill., 1917; taken over by Ross Automobile Co.
Philadelphia Truck Co., Philadelphia, Pa., 1911
Phoenix Auto Works, Phoenixville, Pa., 1909
Phoenix Motor Car & Truck Co., Brooklyn, N. Y., 1911
Piedmont Motor Car Co., Lynchburg, Va., 1917
Pierce Arrow Motor Car Co., Buffalo, N. Y., 1908
Pierce Co., George N., Buffalo, N. Y., 1908
Piggins Motor Truck Co., Racine, Wis., 1912; taken over by Racine Motor Truck Co.
(Pioneer) Gramm-Bernstein Co., Lima, Ohio, 1912
Pioneer Truck Co., Chicago, Ill., 1919
Pittsburgh Motor Car Co., Pittsburgh, Pa., 1910
Pittsburgh Motor Truck Co., Pittsburgh, Pa., 1912; taken over by Lion Motor Truck Co.
Pittsburgh Motor Vehicle Co., Pittsburgh, Pa., 1897; taken over by The Autocar Co.
(Pittsburgher) Pittsburgh Truck Mfg. Co., Pittsburgh, Pa., 1919
Plains Motors Corp., Denver, Colo., 1923
(Plymouth) Commercial Motor Truck Co., Plymouth, Ohio, 1907
Plymouth Div., Chrysler Corp., Detroit, Mich., 1937
Plymouth Motor Truck Co., Plymouth, Ohio, 1907
Pontiac Motor Co., Pontiac, Mich., 1907
(Pontiac) Oakland Motor Car Co., Pontiac, Mich., 1907; later Pontiac Motor Co.
Pope Motor Car Co., Indianapolis, Ind., 1904
Port Albany Foundries, Inc., Coxsackie, N. Y., 1929
Poss Motor Co., Detroit, Mich., 1911
Powell Engine Co., Brooklyn, N. Y., 1911
Power Truck & Tractor Co., Detroit, Mich., 1918; later St. Louis, Mo.
Power Vehicle Co., Milwaukee, Wis., 1912
Pratt-Carter-Sigbee Co., Detroit, Mich., 1911
Pratt Mfg. Co., Wm. E., Joliet, Ill., 1912

(Turn to page 262, please)



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DV

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SPRAY EQUIPMENT
EXHAUST SYSTEMS
AIR COMPRESSORS
HOSE & CONNECTIONS

Directory of Truck Manufacturers

(Continued from Page 260)

Premier Motor Mfg. Co., Indianapolis, Ind., 1906
(Premocar) Preston Motors Corp., Birmingham, Ala., 1922
Prigg, Paul H., Converse, Ind., 1914
Pullman Motor Car Co., York, Pa., 1916
Pull-More Motor Truck Co., New Castle, Pa., 1914
Puritan Machine Co., address unknown, 1914

R

("R & L") Rauch & Lang, Inc., Chicopee Falls, Mass., 1920
Racine Motor Truck Co., Racine, Wis., 1917
Rainier Motor Truck Corp., New York, N. Y., 1916; later Rainier Trucks, Inc. Successor to Essex Motor Truck Co.
Ralston Iron Works, San Francisco, Cal., 1918; formerly Hewitt-Ludlow Auto Co.
(Rambler) Jeffrey & Co., Thos. B., Kenosha, Wis., 1902
Randolph Motor Car Co., Chicago, Ill., 1908
(Ranger) Southern Motor Mfg. Assn., Houston, Texas, 1921
Rapid Motor Vehicle Co., Detroit, Mich., 1902; sold to General Motors
Rassel Motor Car Co., Toledo, Ohio, 1911
Ravenna Motor Truck Co., Ravenna, Ohio, 1912
Read Motor Car Co., Detroit, Mich., 1913
Reading Chassis & Motor Co., Reading, Pa., 1917
Red Ball Transit Co., Indianapolis, Ind., 1924; later Red Ball Motor Truck Corp.
Red Star Motor Truck Co., St. Louis, Mo., 1912
Redford, Riley & Morris, New York, N. Y., 1911
Reedsburg Motor Truck Co., Reedsburg, Wis., 1914
Rehberger & Son, Arthur, Newark, N. J., 1924
Relay Motors, Inc., Wabash, Ind., 1927; later Consolidated Motors, Lima, Ohio
Reliable Dayton Motor Car Co., Chicago, Ill., 1909
Reliable Truck Co., Chicago, Ill., 1913
(Reliance) Appleton Motor Truck Co., Appleton, Wis., 1919
Reliance Motor Car Co., Detroit, Mich., 1906
Reliance Motor Truck Co., Owosso, Mich., 1908; consolidated with Rapid Motor Vehicle Co. to form General Motors Truck Co.
Reliance Motor Truck Co., Appleton, Wis., 1918; taken over by Appleton Motor Truck Co.
Reliance Motor Truck Co., San Francisco, Cal., 1928
Remington-Standard Motor Car Co., New York, N. Y., 1912
Rennoc-Leslie Motor Co., Philadelphia, Pa., 1918
*Reo Motors, Inc., Lansing, Mich., 1940; formerly Reo Motor Truck Co., 1904
(Republic) Alma Mfg. Co., Alma, Mich., 1912; later Alma Motor Truck Co., then Republic Motor Truck Co.
Republic Motor Truck Co., Alma, Mich., 1914; later LeFrance-Republic Corp; see Alma Mfg. Co.
Reuville Motor Buggy Mfg. Co., Minneapolis, Minn., 1911
Rex-Watson Corp., Canastota, N. Y., 1925
Rexroad Engr. Co., Hutchinson, Kansas, 1916
Reynolds Motor Truck Co., Mt. Clemens, Mich., 1919
Riker Electric Vehicle Co., Elizabethport, N. Y., 1901
(Riker) Locomobile Co. of America, Bridgeport, Conn., 1904
Roamer Motors, Inc., Kalamazoo, Mich., 1923; later Roamer Consolidated Corp.
Robinson-Loomis Motor Truck Co., Minneapolis, Minn., 1911
Robinson Motor Truck Co., Minneapolis, Minn., 1912
Rock Falls Mfg. Co., Sterling, Ill., 1917
Rockford Motor Truck Co., Rockford, Ill., 1913
Rock Hill Buggy Co., Rock Hill, S. C., 1915
Rogers Motor Car Co., Omaha, Neb., 1912
Rogers Una-Drive Motor Truck Corp., Sunnyvale, Cal., 1919
Roland Gas Electric Vehicle Corp., New York, N. Y., 1914
Romer Motor Corp., Taunton, Mass., 1922
Ross Automobile Co., Chicago, Ill., 1921
Roto Motor Car Corp., Hannibal, Mo., 1916
Rowe Motor Co., Coatesville, Pa., 1908; later Lancaster, Pa.
Rowe Motor Mfg. Co., Lancaster, Pa., 1919; later Rowe-Stuart Motor Co.
Rowe-Stuart Motor Co., Lancaster, Pa., 1918
Royal Motor Coach Co., Inc., Newark, N. J., 1923
Royal Motor Truck Co., Brooklyn, N. Y., 1912
Royal-Rex Motors Co., Chicago, Ill., 1922; taken over by Nolan Truck Co.
(Rugby) Durant Motors Co. of N. J., Elizabeth, N. J., 1924
Ruggles Motor Truck Co., Saginaw, Mich., 1920
(Rumely) Advance Rumely Co., LaPorte, Ind., 1915
Rush Delivery Car Co., Philadelphia, Pa., 1915; taken over by Diehl Motor Truck Works

S

S & D Motor Vehicle Co., Oakland, Cal., 1911
SPA Truck Corp., South Bend, Ind., 1930
(Safeway) Six Wheel Co., Philadelphia, Pa., 1928
Salentine-Libby & Co., Milwaukee, Wis., 1912
Salter Motor Mfg. Co., Kansas City, Mo., 1916
Sampson Mfg. Co., Pittsfield, Mass., 1908
Sampson Mfg. Co., Alden, Detroit, Mich., 1912
Samson Tractor Co., Janesville, Wis., 1918
Sandow Truck Co., Chicago, Ill., 1913; taken over by Moses & Morris Motor Corp.
Sandusky Auto Parts & Motor Truck Co., Sandusky, Ohio, 1910; taken over by Dauch Mfg. Co.
Sanford Automotive Corp., Sanford, Me., 1922
Sanford Co., Herbert, Syracuse, N. Y., 1911
Sanford Motor Truck Co., Syracuse, N. Y., 1910
Saurer, Adolph, Inc., New York, N. Y., 1926
Saurer Motor Trucks, New York, N. Y., 1909; see Mack Bros.
Savage Arms Corp., Sharon, Pa., 1907; formerly Driggs-Seabury Ordnance Corp.
Saxon Motor Car Co., Detroit, Mich., 1916
Sayers & Scoville, Cincinnati, Ohio, 1907
Schacht Motor Mfg. Co., Cincinnati, Ohio, 1910; later G. A. Schacht Motor Truck Co., then LeBlond-Schacht Truck Co.
Schleicher Motor Vehicle Co., Rochester, N. Y., 1915
Schleicher Motor Vehicle Co., Ossining, N. Y., 1911
Schlotterback Mfg. Co., I. E., East Orange, N. J., 1912
Schmidt Bros. Co., Chicago, Ill., 1910
Schoepflin Co., L. G., Buffalo, N. Y., 1914
Schoonmaker Motor Truck Co., Hudson, Mich., 1921
Schurmeier Motor Car Co., St. Paul, Minn., 1907
Schurmier Wagon Co., Minneapolis, Minn., 1909
Schwartz Motor Truck Co., Reading, Pa., 1918; taken over by Clinton Motors Corp.
Seibert, The Shop of, Toledo, Ohio, 1911; later Seibert Motor Truck Co.
Seitz Automobile & Transmission Co., Detroit, Mich., 1907; taken over by Wyandotte Motor Co.
Selden Motor Truck Co., Rochester, N. Y., 1906; merged with Hahn Motor Truck Co. and known as Selden-Hahn Motor Truck Co., later Maccar-Selden-Hahn Truck Corp., Allentown, Pa.
Seneca Motor Car Co., Fostoria, Ohio, 1917
Service Motor Truck Co., Wabash, Ind., 1911; merged with Relay Motors Corp.
Sexton Tractor Co., Asbury Park, N. J., 1917
Shafer-Decker Co., Rochester, N. Y., 1916
Shaw Livery Co., N. W., Chicago, Ill., 1915; later Yellow Cab Co.
Shelby Tractor & Truck Co., Shelby, Ohio, 1918
Sheridan Commercial Car Co., Harvey, Ill., 1916
Sigmund Auto Truck Co., Milwaukee, Wis., 1912
Signal Motor Truck Co., Detroit, Mich., 1913
Sioux Hawkeye Truck Co., Sioux City, Iowa, 1931, formerly Hawkeye Truck Co.
Six Wheel Truck Co., Fox Lake, Wis., 1922; taken over by Wisconsin Truck Co.
Soules Motor Car Co., Grand Rapids, Mich., 1906
South Bend Motor Car Works, South Bend, Ind., 1916
Southern Automobile Mfg. Co., Inc., Memphis, Tenn., 1922
Southern Truck & Car Corp., Greensboro, N. C., 1919
Sowers Motor Truck Co., Boston, Mass., 1913
*Spangler Engr. & Sales Co., D. H., Hamburg, Pa., 1946
Spaulding Mfg. Co., Grinnell, Iowa, 1912
Spacke Machine & Tool Co., Indianapolis, Ind., 1903
Speedwell Motor Car Co., Dayton, Ohio, 1907
(Spencer) Research Engr. Co., Inc., Dayton, Ohio, 1922
Spoerer's Sons Co., Carl, Baltimore, Md., 1912
Springfield Motor Truck Co., Springfield, Ohio, 1922
St. Charles Motor Truck Co., St. Louis, Mo., 1914
St. Louis Motor Car Co., St. Louis, Mo., 1899; later Dorris Motor Car Co.
Standard Motor Truck Co., Cleveland, Ohio, 1912
Standard Motor Truck Co., Detroit, Mich., 1912
Standard Motor Truck Co., Warren, Ohio, 1913
Standard Steel Car Co., Butler, Pa., 1913
Stanley Mfg. Co., Lawrence, Mass., 1901
Stanley Power Wagon Co., Detroit, Mich., 1910
Stapf & Co., John M., Dunkirk, N. Y., 1915
(Star) Durant Motors of Michigan, New York, N. Y., 1927
Star Motors, Inc., New York, N. Y., 1924
Star Motor Car Co., Ann Arbor, Mich., 1915
Star-Tribune Motor Sales Co., Detroit, Mich., 1913
States Motor Car Mfg. Co., Kalamazoo, Mich., 1916
Staver Carriage Co., Chicago, Ill., 1912
Steam Auto Co., Denver, Colo., 1918
(Steamobile) Winslow Boiler & Engr. Co., Chicago, Ill., 1922
Steamotor Truck Co., Chicago, Ill., 1917
Stearns Co., F. B., Cleveland, Ohio, 1912
Stearns Steam Carriage Co., Syracuse, N. Y., 1901
Steele, W. M., Worcester, Mass., 1916
Stegeman Motor Car Co., Milwaukee, Wis., 1910; taken over by Hercules Motor Truck Co.
Steinkoenig Motors Co., Cincinnati, Ohio, 1926
Steinmetz Electric Motor Car Co., Baltimore, Md., 1920
Step-N-Drive Truck Corp., Buffalo, N. Y., 1928
Stephens Service Co., Milwaukee, Wis., 1930
Stephenson Motor Car Co., Milwaukee, Wis., 1910; later Stephenson Motor Truck Co.
*Sterling Motor Truck Co., Milwaukee, Wis., 1933; see LaFrance-Republic. Formerly Sternberg Truck Co., 1907
Sterling Power Vehicle Co., New York, N. Y., 1902
Sterling Vehicle Co., Harvey, Ill., 1909
Stevens Arms & Tool Co., Chicopee Falls, Mass., 1904
Stevens-Duryea Co., Chicopee Falls, Mass., 1907
Stewart Iron Works, Covington, Ky., 1913
Stewart Motor Co., Buffalo, N. Y., 1912
Stoughton Wagon Co., Stoughton, Wis., 1920; later Stoughton Co., Motor Truck Div.
Stuart Commercial Car Co., Detroit, Mich., 1910; later Detroit Commercial Car Co.
*Studebaker Corp., South Bend, Ind., 1902; formerly Studebaker Automobile Co., 1852
Stuebing Truck Co., Cincinnati, Ohio, 1926
Sturgis & Bro., S. D., Los Angeles, Cal., 1901
Sturtevant Mill Co., Boston, Mass., 1906
Stuyvesant Motor Co., Cleveland, Ohio, 1910; formerly Gaeth Automobile Co.
Stutz Motor Car Co., Indianapolis, Ind., 1927
(Success) Four Wheel Drive Motor Truck Co., Webbersville, Mich., 1917; taken over by Webbersville Truck Co.
Sullivan Motor Car Co., Rochester, N. Y., 1910; later Sullivan Motor Truck Co.
Sultan Motor Co., Springfield, Mass., 1906
(Super) O'Connell Motor Truck Co., Waukegan, Ill., 1919; formerly Manly Motors Corp.
Superior Motor Truck Co., Chicago, Ill., 1917
Superior Motor Truck Co., Atlanta, Ga., 1918
Swanson Motor Car Co., Chicago, Ill., 1912
Symonds Auto Truck Co., Chicago, Ill., 1912
Synnestvedt Machine Co., Pittsburgh, Pa., 1904

T

Taylor Truck Co., Fremont, Ohio, 1916; formerly Lauth-Juergens Motor Car Co.
Tell Mfg. Co., Medford, Mass., 1912
Teetor-Hartley Motor Co., Hagerstown, Ind., 1916
(Texan) Texas Motor Car Co., Fort Worth, Texas, 1918
Theim Motor Car Co., St. Paul, Minn., 1911
Thomas Auto Truck Co., Inc., New York, N. Y., 1916; taken over by Consolidated Motors Corp.
Thomas Motor Car Co., E. R., Buffalo, N. Y., 1912
Thomas Wagon Co., Vernon, N. J., 1907; then Lititz, Pa.
Thorne Motor Corp., Chicago, Ill., 1929
Thornycroft Steam Wagon Co. of America, Paterson, N. J., 1901
Three Point Truck Corp., New York, N. Y., 1920
Tiffin Wagon Co., Tiffin, Ohio, 1912
Titan Truck Co., Milwaukee, Wis., 1917
Toeppiner Bros., Bay City, Mich., 1910
Toledo Electric Vehicle Co., Toledo, Ohio, 1909
Toledo Motor Truck Co., Toledo, Ohio, 1912; taken over by Rassel Motor Car Co.
Toppins Tractor Truck Co., Milwaukee, Wis., 1923
Torbensen Gear, Inc., Bloomfield, N. J., 1904; later Torbensen Motor Car Co.
Touraine Co., Philadelphia, Pa., 1912; taken over by Vim Motor Truck Co.
Tower Motor Truck Co., Greenville, Mich., 1915
Trabold Truck Mfg. Co., Johnstown, Pa., 1914
(Trac-Trucks) Euclid Road Machinery Co., Cleveland, Ohio, 1934
Tractor Co., Elizabethport, N. J., 1904
(Traffic) National Motors Corp., St. Louis, Mo., 1923
Traffic Motor Truck Corp., St. Louis, Mo., 1918
Transcontinental Motor Truck Corp., Buffalo, N. Y., 1917
Transit Motor Car Co., Louisville, Ky., 1911; later Transit Motor Truck Co.
Transport Tractor Co., Long Island City, N. Y., 1917
Transport Truck Co., Mt. Pleasant, Mich., 1918
Transportation Engineers, Inc., Detroit, Mich., 1935
Traylor Engr. & Mfg. Co., Cornwells, Pa., 1911; later Allentown, Pa.
Triangle Motor Truck Co., St. Johns, Mich., 1918
Triple Motor Truck Co., Minneapolis, Minn., 1916
Triumph Motor Car Co., Chicago, Ill., 1911
Triumph Truck & Tractor Co., Kansas City, Mo., 1919
Trumbull Motor Car Co., Bridgeport, Conn., 1914
Tulsa Automobile & Mfg. Co., Dowagiac, Mich., 1912
Turbine Electric Truck Co., New York, N. Y., 1904
Turnbull Motor Truck & Wagon Co., Defiance, Ohio, 1917
Tuttle Motor Co., Canastota, N. Y., 1913
Twin City Four Wheel Drive Co., St. Paul, Minn., 1915
Twin Coach Corp., Kent, Ohio, 1927
Twombly Car Corp., New York, N. Y., 1914
Twyford Auto Mfg. Co., Houston, Texas, 1912
Twyford Motor Car Co., Brookville, Pa., 1907

U

(Ultimate) Vreeland Motor Co., Inc., Newark, N. J., 1919
Ultra Truck Corp., Philadelphia, Pa., 1917
Unger, Wm., Philadelphia, Pa., 1917
Union Car Co., Los Angeles, Cal., 1916
Union Construction Co., San Francisco, Cal., 1921
Union Motor Truck Co., Bay City, Mich., 1901
Union Motor Truck Co., Philadelphia, Pa., 1904
Union Motor Truck Co., San Francisco, Cal., 1911
Union Truck & Equipment Co., New York, N. Y., 1917
United Motor Products Co., Grand Rapids, Mich., 1915; formerly United Motor Truck Co.
United Motor Truck Co., Grand Rapids, Mich., 1915; later United Motor Products Co.
United States Carriage Co., Columbus, Ohio, 1909
United States Products Co., Grand Rapids, Mich., 1923
Unity Motor Truck Co., Cleveland, Ohio, 1917
(Universal) Motor Truck Corp., Detroit, Mich., 1918; later Universal Service Co.
Universal Machinery Co., Milwaukee, Wis., 1912
Universal Motor Co., Denver, Colo., 1912
Universal Motor Truck Co., Detroit, Mich., 1911; taken over by Howard W. Walton
Universal Service Co., Detroit, Mich., 1910; formerly Motor Truck Corp.
Unwin Motor Car Co., New York, N. Y., 1922
Upton Machine Co., Beverly, Mass., 1902
(Urban) Kentucky Wagon Mfg. Co., Louisville, Ky., 1912
Ursus Motor Co., Chicago, Ill., 1921
U. S. Long Distance Auto Co., Jersey City, N. J., 1904

(Turn to page 264, please)

"We attempted to get up to the logging operation but found that a passenger car does not have the traction to make the steep, rugged grades," writes Tom Griffin of Wheel Industries, Inc., Budd Wheel distributor in San Francisco and Los Angeles. To get the photograph you see here they had to bring the truck down to the photographer. It belongs to Harris Brothers of Springville, California, who operate in the high Sierras where the season is only six to eight months long and every interruption really hurts.

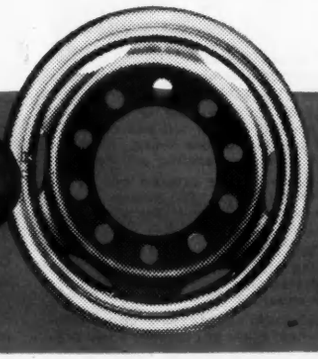
Their trailers had been chewing tires to pieces at a horrible rate and they asked their tire dealer, Commercial Tire Service of Porterville, and Wheel Industries, Inc., to find a remedy. The trouble was caused by the bulging and flexing of the sidewalls and wide base rims were prescribed to straighten up the sidewalls and protect the tires from rock cuts. Maximum dish wheels were also specified to stop rocks from wedging between the duals and cutting the inner face of the tires. Result—$2,100 saved on nine trailers in six months.

That's the kind of service Budd Wheel distributors are trained to give, and are equipped to provide with the only complete line of wheels with advanced rims. There's a Budd distributor near you—located in 57 principal U. S. cities. Ask him to look over your equipment and your operation. There's a good chance he can save you money.

The Budd Company, Detroit

Look for this label, in blue, red and gold, on the rim of every genuine Budd Wheel

GENUINE Budd COLD TAPERED DISC WHEEL



Directory of Truck Manufacturers

(Continued from Page 262)

(U. S.) United States Motor Truck Co., Covington, Ky., 1910
Utah Motor Truck Co., Salt Lake City, Utah, 1913
Utility Supply Co., Menominee, Mich., 1916

V

V-C Motor Co., Lynn, Mass., 1912
Valley Motor Truck Co., Elkhart, Ind., 1926
Van Dyke Motor Car Co., Detroit, Mich., 1910
(Van) Wambeke & Sons, H. G., Elgin, Ill., 1908; later Van Wambeck & Sons
Van-L Commercial Car Co., Grand Rapids, Mich., 1912
Van Wambeck & Sons, Elgin, Ill., 1909; formerly Wambeke & Sons
Van Winkle Gin & Machine Co., Atlanta, Ga., 1912; later Van Winkle Motor Truck Co.
Vanette, Inc., Detroit, Mich., 1946
Veerac Motor Co., Anoka, Minn., 1909
Vehicle Equipment Co., Brooklyn, N. Y., 1903
Velie Motor Vehicle Co., Moline, Ill., 1908; later Velie Motors Corp.
Versare Corp., Albany, N. Y., 1926
Viall Motor Car Co., Chicago, Ill., 1915
(Victor) Ghent Motor Car Co., Ottawa, Ill., 1920
Victor Motor Truck Co., Buffalo, N. Y., 1910
Victor Motors, Inc., St. Louis, Mo., 1923
Victor Truck Co., Inc., St. Joseph, Mich., 1919
Victor Motor Truck & Tractor Co., Chicago, Ill., 1918
Vim Motor Truck Co., Philadelphia, Pa., 1915
Voltz Bros., Chicago, Ill., 1916
(Vulcan) Driggs-Seabury Ordnance Corp., Sharon, Pa., 1907; later Savage Arms Corp.
Vulcan Mfg. Co., Seattle, Wash., 1922
Vulcan Motor Truck Co., Detroit, Mich., 1912

W

Wachusett Motors, Inc., Fitchburg, Mass., 1912
Wade Commercial Car Co., Holly, Mass., 1912
Wagenhale Mfg. Co., St. Louis, Mo., 1910
Waldron Runabout Mfg. Co., Waldron, Ill., 1911
Walker-Johnson Truck Co., Woburn, Mass., 1920
Walker Vehicle Co., Chicago, Ill., 1903; later Walker Vehicle Co. Div. Yale & Towne Mfg. Co.
Wallof Motor Truck Co., Minneapolis, Minn., 1912
(Walter) Milwaukee Locomotive Works, Milwaukee, Wis., 1916
*Walter Motor Truck Co., Ridgewood, L. I., N. Y., 1908; formerly Walter Auto-Truck Mfg. Co.
Waltham Motors Corp., Chicago, Ill., 1920
Walton, Howard W., New York, N. Y., 1912
*Ward LaFrance Truck Corp., Elmira, N. Y., 1924
Ward Motor Vehicle Co., Mt. Vernon, N. Y., 1911
Ware Motor Vehicle Co., St. Paul, Minn., 1912; taken over by Twin City Four Wheel Drive Co.
Ware Twin Engine Truck Co., Minneapolis, Minn., 1919
Warren Motor Car Co., Detroit, Mich., 1911
Warren Motor Truck Co., Warren, Ohio, 1916
Washington Auto Truck Mfg. Co., Milwaukee, Wis., 1912
Washington Motor Car Co., Hyattsville, Md., 1916
Washington Motor Vehicle Co., Washington, D. C., 1910
Waterville Tractor Co., Waterville, Ohio, 1911
Watson Truck Corp., Canastota, N. Y., 1919; taken over by Rex-Watson Corp.
Watson Wagon Co., Canastota, N. Y., 1917; later Watson Products Corp., Truck Div.
Waverly Co., Indianapolis, Ind., 1908
(Waverly) Pope Co., Hartford, Conn., 1905
Wayne Light Commercial Car Co., New York, N. Y., 1912; formerly Light Commercial Car Co.
Wayne Tractor Co., Detroit, Mich., 1917
Weber Motor Vehicle Co., Louisville, Ky., 1910
Weeks Commercial Vehicle Co., Chicago, Ill., 1908
Weier-Smith Truck Co., Birmingham, Mich., 1916
Werner Motor Truck Corp., Eastport, L. I., N. Y., 1935
West Coast Wagon Co., Tacoma, Wash., 1916
West Motor Co., Inc., New York, N. Y., 1919
Western Motor Truck Co., Oakland, Cal., 1913
Western Motor Truck Co., Chicago, Ill., 1917
Westfield Motor Truck Co., Westfield, Mass., 1912
Westman Motor Truck Co., Cleveland, Ohio, 1911
Weyher Mfg. Co., Whitewater, Wis., 1910
White Hickory Wagon Mfg. Co., Atlanta, Ga., 1916
*White Motor Co. The; original company organized in 1866; manufacture of cars and trucks began in 1899; first truck built 1900
White Star Engr. Co., Brooklyn, N. Y., 1911; later White Star Motor & Engr. Co.
White Steam Wagon Co., Indianapolis, Ind., 1902
Whiteside Commercial Car Co., Franklin, Ind., 1911; then New Castle, Ind.
Whiting Foundry Equipment Co., Harvey, Ill., 1904
Whitman Agricultural Co., St. Louis, Mo., 1907
Whitewood Corp., Weldsport, N. Y., 1914
Wichita Falls Motor Truck Co., Wichita Falls, Texas, 1911
Wilcox Motor Car Co., H. E., Minneapolis, Minn., 1907; later Wilcox Trux, Inc.
Wilcox Trux, Inc., Minneapolis, Minn., 1921; taken over by C. H. Will Motors Corp.
Willet Engine & Truck Co., Buffalo, N. Y., 1909
Willingham's Sons, E. H., Atlanta, Ga., 1915; taken over by Superior Motor Truck Co.
*Willys-Overland Motors, Inc., Toledo, Ohio, 1908
Wilson Co., J. C., Detroit, Mich., 1914
Winkler Bros. Mfg. Co., South Eend, Ind., 1909
Winther Motor Truck Co., Kenosha, Wis., 1915; later Kenosha Fire Engine & Truck Co.
Winton Motor Carriage Co., Cleveland, Ohio, 1898; later Winton Motor Car Co.
Wisconsin Duplex Auto Co., Oshkosh, Wis., 1918; later Oshkosh Motor Truck Mfg. Co.
Wisconsin Fire Apparatus Co., Logansville, Wis., 1923
Wisconsin Motor Mfg. Co., Milwaukee, Wis., 1915
Wisconsin Motor Truck Co., Baraboo, Wis., 1913
Wisconsin Truck Corp., Logansville, Wis., 1919; later Wisconsin Fire Apparatus Co.
Witt Will Co., Washington, D. C., 1914
(W.M.C.) Will Mfg. Corp., C. H., Minneapolis, Minn., 1927
Wolverine Motor Truck & Coach Co., Detroit, Mich., 1922
Wolverine Truck & Trailer Co., Detroit, Mich., 1920
Wonder Motor Truck Co., Chicago, Ill., 1917
Wood, J. C., Brooklyn, N. Y., 1905
Woods Mobilette Co., Chicago, Ill., 1917
World Motors Co., Cincinnati, Ohio, 1928
Worth Motor Car Mfg. Co., Evansville, Ind., 1907; taken over by Service Motor Car Co.
Wright-Hibbard Industrial Electric Truck Co., Philips, N. Y., 1934
W-S Truck Co., Birmingham, Mich., 1917
W.S.M. Truck Mfg. Co., Newark, N. J., 1912
Wyandotte Motor Co., Detroit, Mich., 1913
Wyckoff, Church & Partridge, Kingston, N. Y., 1911

Y

Yellow Cab Co., Chicago, Ill., 1915; formerly Shaw Livery Co.
Yellow Coach Mfg. Co., Chicago, Ill., 1924; later Yellow Truck & Coach Mfg. Co., acquired by General Motors Corp., 1943, to form present GMC Truck & Coach Div.
Ypsilanti Motor Truck Co., Ypsilanti, Mich., 1917

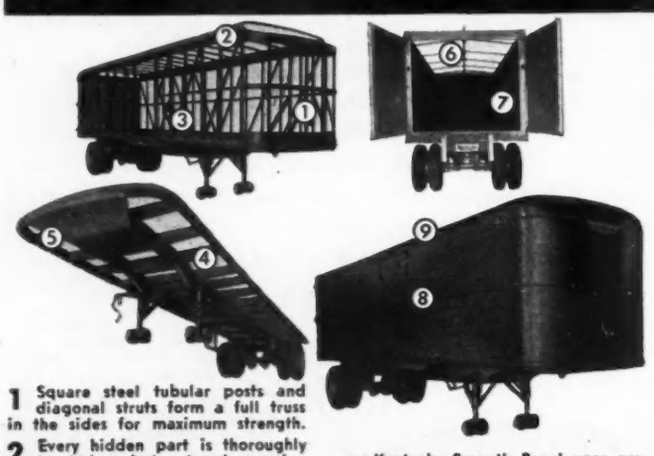
Z

Zeitler & Lawson Motor Truck Co., Chicago, Ill., 1915; later Lamson Truck & Tractor Co.

A Directory of Trailer Manufacturers is Listed on Page 280

KENTUCKY

STRUCTURAL STRENGTH



1 Square steel tubular posts and diagonal struts form a full truss in the sides for maximum strength.

2 Every hidden part is thoroughly treated against rust and corrosion and painted before lining, flooring, roof, or outer paneling are applied.

3 Rub rails are pressed out as integral parts of outside frame members and offer sturdy protection for body sides.

4 Exclusive Kentucky Load-Spreading assembly guards against concentrated loading . . . distributes and equalizes floor load.

5 62-inch reenforced upper-fifth-wheel plate at coupling edge provides wider angles of coupling.

6 Kentucky Smooth Panel vans are available in open top, one-half, one-quarter, or fully closed tops.

7 All vans are fully lined with one-quarter inch plywood. Floor is treated and sealed against rot, and is conditioned for longer wear.

8 All mouldings and panels are fastened with blind rivets easily replaced. They cannot back out or rust.

9 24-gauge clincher-jointed galvanneal roof laid over felted anti-squeak bows that are specially designed to prevent "usual" bellying.

PRACTICAL VAN OPERATORS see in the KENTUCKY TRAILER the advanced features that insure greater mileage, easier pulling, and maximum safety. From the ground up, structural strength without increased weight has been the first consideration. KENTUCKY'S Load-Spreading assembly fully balances the load, maintains alignment, and keeps the unit in shape even when accidents or collisions occur . . . The fully trussed body accommodates a capacity load . . . The chassis rails support the cross members for carrying the floor load.

KENTUCKY'S Load-Spreading assembly guards against concentrated load by distributing the floor load equally into the carrying side structures. The stability thus developed provides the smoothest pulling under any road conditions . . . keeps suspension in line . . . body in line . . . because the pull is directly through the Load-Spreading assembly. Long van life of KENTUCKY TRAILERS is insured by the special no rust—no corrosion treatment of all hidden metal parts.

The finish on the KENTUCKY TRAILER is an outstanding development of the industry.

KENTUCKY MANUFACTURING COMPANY
R. C. TWAY COMPANY, *Incorporated* OWNER
2601 SOUTH THIRD STREET, LOUISVILLE 8, KY.

Since KENTUCKY *1879*

"SMOOTHER STOPS"—

"LOWER COST PER MILE"—

"EXTRA MILEAGE"—

"LESS SERVICING"

Testimonials and enthusiastic reports are pouring in—Benny is getting them from every side these days. Why? Because just a year ago, Benny began to spread the word in the trucking industry about the safe, smooth stops and additional miles of brake block life made possible by *BENIUM**. Fleet owners everywhere took the tip and tried the new Eclipse Brake Blocks. Now they're glad they did, because everything Benny said is true—tests on their own trucks *proved* that. Ask your jobber about these great brake blocks and install them all around. When you see how the savings add up as the miles roll by, you'll thank Benny, too.

*BENIUM** *Heat-resisting material is the secret ingredient developed by the Marshall-Eclipse Division of Bendix and used exclusively in Eclipse brake linings and heavy-duty brake blocks.*

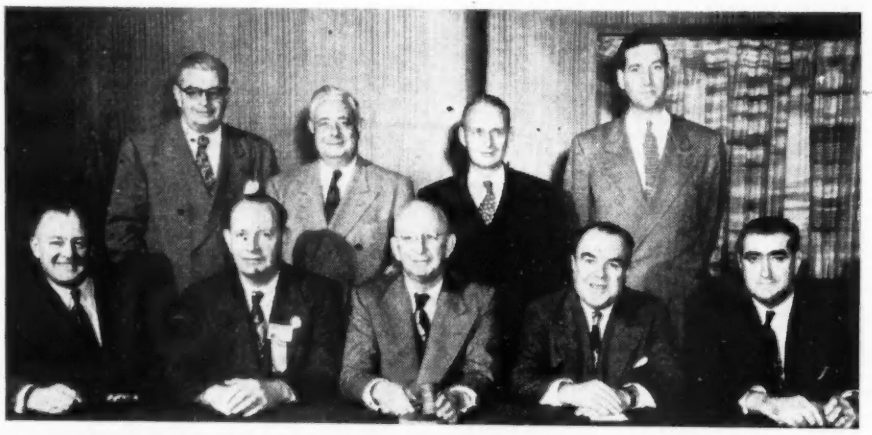
Eclipse Brake Blocks

A PRODUCT OF Bendix

Greatest Name in Braking!

MARSHALL-ECLIPSE DIVISION OF
TROY, NEW YORK

Bendix
AVIATION CORPORATION



NEW ATA OFFICERS—Seated l to r.: Chester G. Moore, secretary; Ed J. Buhner, chairman of the board; H. D. Horton, president, Ted V. Rodgers, honorary chairman, Henry E. English, first vice-president. Standing: Charles P. Clark, treasurer; D. L. Southerland, third vice-president; C. J. Williams, second vice-president, and Fred B. Hufnagel, Jr., fourth vice-president.

ATA Convention Adopts Trailer Interchange Plan

Training courses, safety program, sizes and weights also discussed. Horton is president

FROM the point of view of men in charge of fleet maintenance and operation, the most significant action taken at the 15th anniversary convention of the American Trucking Associations, Inc., in Washington, D. C., October 8-14, was the adoption of a nation-wide plan for interchanging truck trailers.

The Regular Common Carrier Conference of the association announced unqualified ratification of such a plan. This would permit shippers to load freight in a trailer with the assurance that it will travel to its destination without transfer en route when it moves over more than one line. This would speed shippers' goods and figure greatly in the reduction of cargo loss and damage.

To make possible this universal interchange of trailers among motor carriers, the Equipment Advisory Committee of the A. T.A. embarked upon the preparation of technical specifications whose standardization will result in the construction of semitrailers, capable of being interchanged.

The technical specifications to be developed will relate to the design, construction and installation of small parts of semitrailers. These must have uniform mating characteristics so that the trailers can be easily interchanged without field alterations. Currently it was pointed out, only one item has been standardized: the fifth wheel kingpin.

Standardization Plans

AMONG the parts and constructions to be specified are sizes of semitrailer bodies. It appears that three sizes may be possible for dry freight transportation, with each size having a relation to its construction features and the design of the tractor used to haul the individual type of semitrailer. For example, one length of semitrailer may be optimum in three-axle combinations of two-axle tractors and single-axle semitrailers. Another length may best fit four-axle combinations of two-axle tractors and two-axle semitrailers, while still another length may be optimum for five-axle combinations of three-axle tractors and two-axle semitrailers of the type common in the eleven western states.

The matter of semitrailer floor strength received considerable attention and the committee decided that a floor strength which will permit the use of a fork-lift truck directly in trailer bodies, should be specified because of the increasing use of material-handling equipment by carriers.

In order to permit the fifth wheel on tractors to be of uniform height, a standard height of fifth wheel plates on semitrailers is to be specified. Joined with the fifth wheel kingpin location, there is to be prescribed a location of semitrailer landing gears which will provide adequate clearance between the landing gear and the rear frame extention of the tractor.

During committee discussion of tire and rim sizes, the majority opinion appeared to favor the use of 22-in. diameter rims and 10:00 tires. Current practices indicate a fairly evenly divided use between spoke wheels and disk wheels, and there may be no specifications on the type of wheels because 22-in. tires can be mounted on either spoke wheels or disk wheels in cases where a semitrailer may be operating on a foreign line. The committee planned to recommend only one size of tire because tire size has a pronounced effect on body floor height and it is hoped to develop a uniform floor height for semitrailer body floors.

The types of power brake systems found the committee divided between the air brakes and vacuum power brakes. There appeared to be a definite trend toward air brakes for the four and five-axle combinations.

The topic of brake jumper hose couplers found the committee favoring the use of automatic shut-off type of hose couplers, but with the proviso that the resistance of such couplers should not be greater than that of a non-automatic shut-off coupler. Uniform location for brake hose couplers is to be developed with the trailer manufacturers.

An increase in the number of electrical circuits for the lighting of semitrailers to seven circuits was discussed. Seven circuits would provide a circuit for interior body lamps, back-up lamps, or other special purpose lamps which are used intermittently. By using seven circuits it also would be possible to divide the circuits of the tail lights and clearance lamps on the rear of the body so that a failure of one circuit would not extinguish all of the lights on the rear of the body. The seven-circuit proposal would include two circuits for directional signals.

When the matter of circuits is settled, there will be consideration of new designs of electric cable plugs and sockets which will permit interchange of trailers without field alterations of wiring. It is expected that all units will be equipped with a plug and socket containing contacts for directional signals even though directional signals may not be used in certain states. In this way one vehicle without directional signals can be coupled to one with directional signals without requiring an alteration of plug or sockets, even two contacts in the plug and socket may not be used. A uniform location for the electrical cable socket above the brake hose couplers were proposed.

Hubodometers may be an optional recommendation in the final specifications.

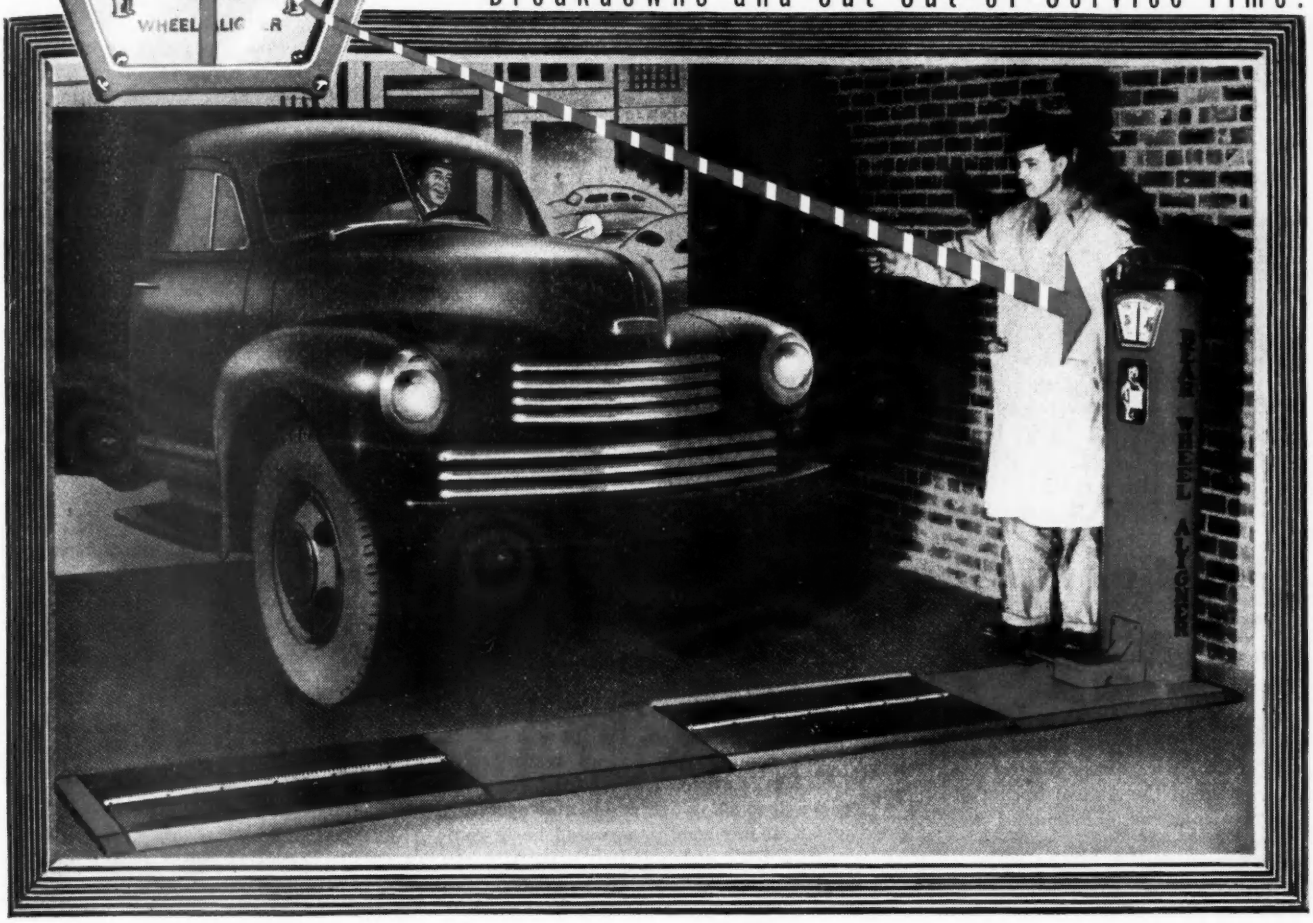
Chairman Julius Gaussoin, Portland, Ore., appointed four subcommittees to prepare drafts of specifications on four divisions of the overall specifications for interchange semitrailers. The subcommittees were directed to have reports for presentation at the time of the Spring Meeting of the ATA Equipment and Maintenance Council.

The committee also acted on several matters of business of the ATA Equipment

(TURN TO PAGE 268, PLEASE)

HERE'S HOW

to get greater TIRE MILEAGE, Prevent Breakdowns and Cut Out-of-Service Time!



Expose all of your motor vehicles to this accurate Alinement Test every time they enter your shop!

Prevent tire wear and costly breakdowns *before* they occur. You can get up to 50% more mileage out of tires with proper wheel alinement . . . you can reduce wear and breakage of parts by correcting mis-alinement as it occurs.

The Bear "240" Wheel Alinement Tester affords the most economical and positive means of checking wheel alinement in your shop. Accurate, dependable tests are made automatically and instantly every time your cars, trucks or buses enter your shop or garage.

With the Bear Drive-Over Alinement Tester, your mechanics or drivers check alinement while the vehicle is *in motion* —while it's *fully loaded*. That's important . . . it's the right way to test all cars, trucks and buses. The Bear "240" Tester checks side slippage per mile, showing toe-in or toe-out conditions. It also detects the presence of a bent rear housing or other conditions causing mis-alined wheels. Here's a unit that can make real savings in your operating costs.

See your Bear Jobber or write for the illustrated "240" Bulletin TODAY. BEAR MFG. CO., Dept. C-3, Rock Island, Illinois.

LOOK at these FEATURES

- ✓ Extremely sensitive—engineered to give *correct* readings.
- ✓ Completely automatic—trip lever resets to zero before each test.
- ✓ Lies close to the floor—uses a *minimum* of space.
- ✓ No installation or operating expense—*no pipes—no wires.*
- ✓ Easy-to-read eye *level dial* that the driver can see from his cab
- ✓ Serrated blades for *perfect* grip on tires.
- ✓ part of the Nationally Advertised Bear Safety Service.

BEAR THE BANNER of SAFETY

POST

BEAR SAFETY SERVICE

Trade Mark Reg. U. S. Pat. Off.

WHEEL ALINEMENT · DY-NAMIC BALANCING · HEADLIGHT TESTING · BRAKE TESTING

R-3029 FO

Grayson C. Thomas (left) of Associated Transport, Burlington, N. C., was named winner of tractor-semi-trailer class at National Roadeo in Washington, while Thomas Bennane, Trucking Inc., Detroit, took top honors in straight truck class

ATA Convention

(Continued from Page 236)

and Maintenance Council under the direction of A. R. Pearson, Los Angeles, chairman of the council.

Training Courses

PRELIMINARY plans were laid for the program of the Annual Spring Meeting of the Conference. Committees were appointed to handle topics and speakers at the Council's meeting. A committee also was appointed to further develop and promote a series of Maintenance Supervisor Training Courses at state colleges and universities.

On the other hand, the ATA Council of Safety Supervisors (formerly the ATA Section of Safety and Operations) at its meeting developed a critical attitude toward the Fleet Safety Supervisor Training Course which is taught in colleges and universities throughout the country.

The general feeling expressed was that the course taught was too elementary and too theoretical for the present-day fleet supervisors. Chairman W. J. Rellaford appointed a committee of five men to study the present course of instruction with a view to recommending changes that will bring the course more nearly in line with the needs of the trucking industry.

The committee consists of Richard Borse, Norwalk Truck Lines, Norwalk, Ohio; Dwight M. Church, H. B. Church Truck Service, Boston, Mass.; F. S. Platzer, Rodgers Cartage Co., Chicago, Ill.; Ellis Pratz, Jr., Heldt Brothers, Alice, Tex.; W. F. White, Great Southern Trucking, Jacksonville, Fla.

The Council was also critical of the manner in which the ATA Truck Safety Contest is conducted. As a result of this criticism, Chairman Rellaford appointed a committee of four— Kenneth Beadle, Pacific Intermountain Express, Salt Lake City, Utah; J. L. S. Snead, Jr., Consolidated Freightways, Portland, Ore.; W. Earl Givens, George F. Alger Co., Detroit, Mich., and Robert- I. Gayley, Suppplee-Wills-Jones Milk Co., Philadelphia, Pa.— to make a study of the present Truck Safety Contest and submit recommendations for a revision so that truck fleets engaged in similar operations and operating under similar conditions would be in competition with each other.

Fleet Safety Program

AFTER hearing a report from R. C. Coleman, of American Safety Tank Co.. on the work now being done by the ATA Insurance Advisory Committee on minimum fleet safety programs, the Council withheld action on further work on fleet safety programs until such time as the Advisory Committee submits its first draft on the subject to be screened by council members.

Driver Scarcity Discussed

THE council also discussed ways and means of putting new life into the Driver-of-the-Month Program.

In an open forum dicussion members brought up individual problems and sought the advice of those present in solving them.

One of the main subjects discussed was the shortage of good drivers in all parts of the country. The indications are that this shortage, while presently a handicap, may eventually result in the stimulation of selection and training programs in all fleets which will be a healthy movement for the industry's safety programs. It also appears that a move on the part of the industry to provide in some manner for drivers who reach a retirement age would result in building morale among old drivers and in attracting better caliber material for new drivers.

Size & Weight Standards Revised

THE A.T.A. Executive Committee revised recommended minimum vehicle size and weight standards which had been stated as official policy since 1944.

The revised version liberalizes certain features of the 1944 recommendations and in some instances provides for larger limits than those favored by the American Association of State Highway Officials.

The revised A.T.A. minimum standards call for:

Overall width (body included), 102 in.; compared with 96 in. overall width favored by the AASHO, which, however, has indicated that 102 in. overall width (body not included) might be desirable as roads are widened.

Height, 13½ ft; 1 ft greater than advocated by AASHO.

Single vehicle length, 40 ft; 5 ft more than advocated by AASHO.

Tractor semi-trailer length, 50 ft; same as AASHO.

Other combinations, 65 ft; 5 ft more than AASHO.

Axle load—high presssure tires, 18,000 lb; none stated in AASHO code.

Axle load—balloon tires, no present recommendation pending outcome of current tests; AASHO code, 18,000 lb.

Gross weights favored for combinations of axles spaced 18 ft or less would be according to a table, with 36,000 lb for spacings up to 11 ft, and weights ranging upward thereafter from 40,000 lb for 12-foot axle spacings to 46,400 lb for 18-foot axle spacing.

Resolutions & Reports

THE Board of Directors unanimously (1) approved a resolution stating the Taft-Hartley Labor-Management Relations Act has had a "salutory effect upon industrial relations, has generated increased national production, and has thereby worked to the distinct benefit of employers, workers, and above all the public";

(2) Adopted a taxation report aimed at elimination of third-structure taxes and establishment of a pattern for long-range handling;

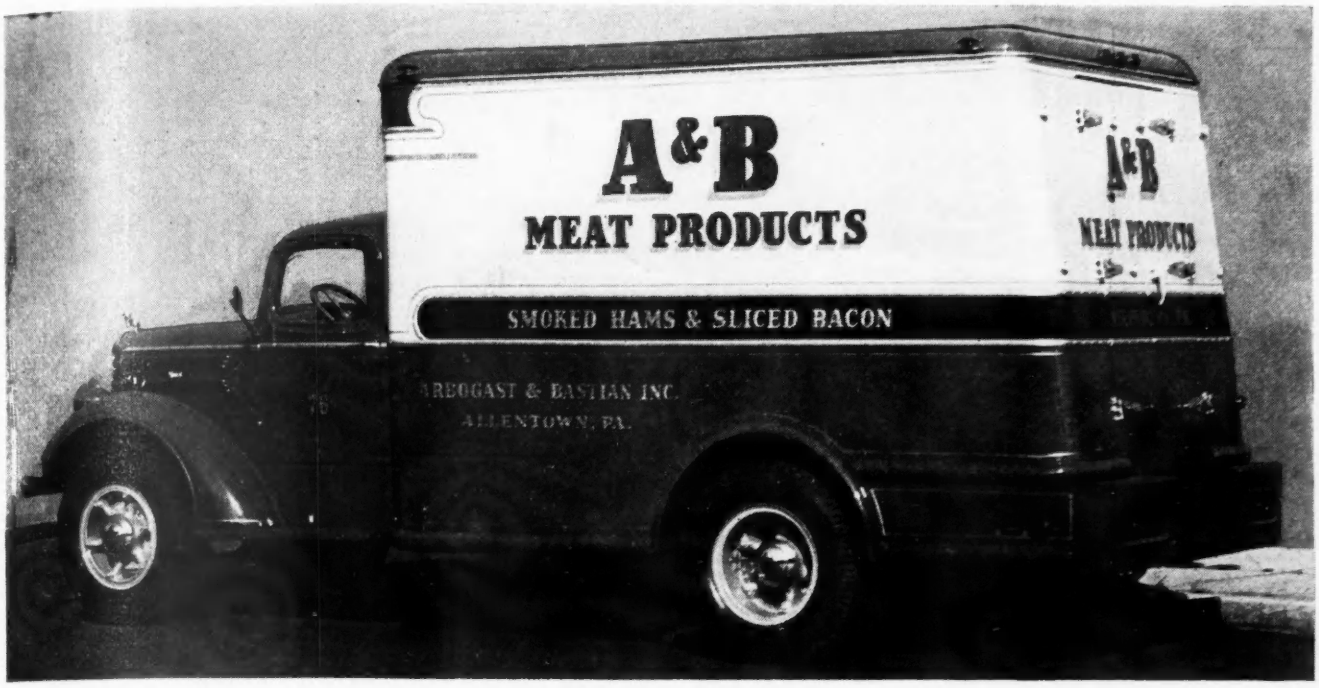
(3) Approved a set of 12 principles to govern truck leasing practices and set them up as the trucking industry position at hearings before the Interstate Commerce Commission, expected to result in more stringent regulation of such practices.

Horton Elected President

H. D. (Buddy) Horton, of Charlotte, N. C., chairman of the board of Associated Transport, Inc., New York, was elected unanimously to be president of the association for the coming year. He had been first vice president of the association since 1936. Ed J. Buhner, chairman of the board of Silver Fleet Motor Express, Louisville, Ky., became the association's board chairman.

In a surprise move, the delegates named Ted V. Rodgers, head of Eschenbach and Rodgers, Scranton, Pa., to be honorary

(TURN TO PAGE 270, PLEASE)



BETTER BODIES with PARISH

Universal Body Sections

The above illustration shows a custom body designed and built by Boyertown Auto Body Works, for the specific needs of their customer, using Parish Universal Body Sections. Because of PARISH'S exclusive "B" Line pre-fabricated, high-tensile steel body sections, it is now possible for local body builders everywhere to meet individual truck owners' requirements with truck body shapes and sections that can be easily and quickly assembled.

Hundreds of body builders are using PARISH Universal Body Sections because of the following features they make possible in truck and trailer bodies:

- **Individual Design**
- **Attractive Appearance**
- **Simplified Layout**
- **50% Saving of Assembly Time**
- **Strength Without Excess Weight**
- **Easy Maintenance**

You can rely on the experience of the country's many leading automobile, truck, trailer and truck body manufacturers who use PARISH Products. It pays to specify PARISH. Catalogs A and B will be sent to body manufacturers upon request.

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WITH STEAM!

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PORTABLE
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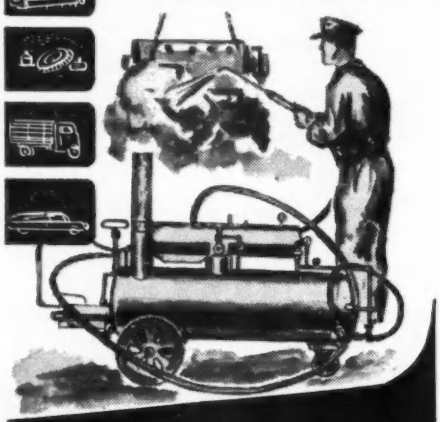


The time-saving, cost-cutting Siebring Steam Cleaner is now making *big money* for repair and maintenance shops. Continuous flow of steam for hours assures fast cleaning on the toughest grease and dirt packed jobs by providing steam or hot water or *both* UNDER PRESSURE with powerful, cutting chemicals. First it knocks loose, then it dissolves and removes the firmest holding most stubborn dirt, grease and grime. It's low cost . . . it's portable . . . and it can be operated independently of city water pressure or electricity. Fast-heating electric model with thermostatic control also available. *Try It at Our Risk.*

Write today for illustrative literature and facts about Siebring's 10 Day "FREE TRIAL" Offer. See for yourself how the Siebring Steam Cleaner will save costly man hours and speed repair work; see how simple it is to operate. RUSH name and address, Dept. CC-2.

SIEBRING MFG. CO.
GEORGE, IOWA

ATA Convention

(CONTINUED FROM PAGE 268)

chairman of the board for life. Mr. Rodgers served as ATA's president from the beginning in 1933 for 14 consecutive terms.

Other new officers of the association are:

Henry E. English of Sproles-Red Ball Lines, Inc., Dallas, first vice president; C. J. Williams, Hillside Transit Co., Milwaukee, second vice president; D. L. Sutherland, Middle Atlantic Transportation Co., New Britain, Conn., third vice president; Fred B. Hufnagel, Jr., Sun Oil Co., Philadelphia, fourth vice president; Charles P. Clark, Columbia Terminals Co., St. Louis, treasurer, and Chester G. Moore, board chairman of the Central Motor Freight Association, Chicago, secretary.

The 10 ATA conferences held business sessions, discussing many problems vital to each of the different types of carriers. Except for the Local Cartage National Conference, which elects officers at its annual meeting in January, the conferences held elections, naming the following to be chairmen:

Automobile Transporters, Walter F. Carey, of Michigan; Regular Common Carriers, Leland James, of Oregon; Irregular Route Common Carriers, Jack Cole, of Alabama; Contract Carriers, A. P. Nelson, of Illinois; Film Carriers, James P. Clark, of Pennsylvania; Household Goods Carriers, J. Wallace Fager, of Pennsylvania; Oilfield Haulers, R. C. Williams, of Kansas; Private Carriers, Fred B. Hufnagel, Jr., of Pennsylvania, and Tank Truck Carriers, Sam Niness, of Pennsylvania.

Convention attendance was close to 3000.

Safety Contest Winners

The Texas Motor Transport Association, Inc., Austin, Tex., was adjudged winner in the motor truck association division of the Safety Contest. Pacific Intermountain Express, Salt Lake City, Utah, was announced winner in the unlimited class for local and long distance truck lines in the Fourteenth National Truck Safety Contest of the A.T.A. At the same time, the company was adjudged winner of the Trailmobile Trophy, awarded annually by the Trailmobile Company, Cincinnati, on the basis of the competing companies' over-all program for highway courtesy and safety. Second place was won by Red Star Transit Co., Inc., Detroit and third place by Yellow Transit Co., Oklahoma City.

First place awards in the combined local and long-distance division went to:

Class 1, up to 100,000 miles—Kansas Van & Storage Co., Topeka.

Class 2, 100,000 to 500,000 miles—Lay Trucking Co., La Porte, Ind.

Class 3, 500,000 to 1,000,000 miles—Carr Consolidated Biscuit Co., Wilkes-Barre, Pa.

Class 4, 1,000,000 to 2,000,000 miles—Alton Box Board Co., Alton, Ill.

Class 5, 2,000,000 to 3,000,000 miles—Pacific Highway Transport, Inc., Seattle, Wash.

Class 6, 3,000,000 to 5,000,000 miles—Mistletoe Express Service, Inc., Oklahoma City, Okla.

Class 7, 5,000,000 to 12,000,000 miles—Huber & Huber, Louisville, Ky.

First awards in the long distance division went to:

Class 1, up to 500,000 miles—Harry E. Grimes Transport, Arkansas City, Kan.

Class 2, 500,000 to 1,000,000 miles—W. S. Duckworth Transport, Post, Tex.

Class 3, 1,000,000 to 2,000,000 miles—Empire Transportation Co., Bakersfield, Calif.

Class 4, 2,000,000 to 3,000,000 miles—Missouri Pacific Freight Transport Co., Houston, Tex.

Class 5, unlimited mileage—Coastal Tank Lines, York, Pa.

First awards in the local operation division went to:

Class 1, up to 100,000 miles—Consolidated Dairy Products, Long Island City, N. Y.

Class 2, 100,000 to 500,000 miles—City Transfer Co., Ltd., Honolulu, T. H.

Class 3, unlimited mileage — Supplee-Wills-Jones, Philadelphia, Pa.

(TURN TO PAGE 272, PLEASE)

ANNOUNCING

FIRST TIME IN U.S.A

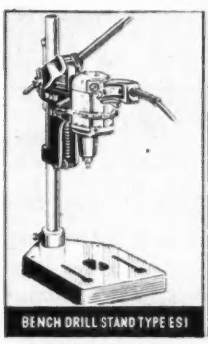
WOLF PORTABLE ELECTRIC TOOLS

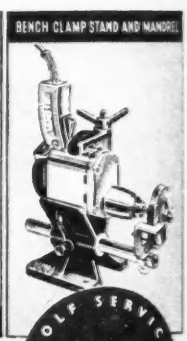
Noted for Fine English Craftsmanship

HALF A CENTURY IN 50 WORLD MARKETS WINNING RECOGNITION FOR HIGH QUALITY

THIS ¼" LIGHTWEIGHT ALL-BALL BEARING PRODUCTION DRILL IS AMAZINGLY VERSATILE AND DURABLE!

This is a popular drill with automotive manufacturers, body workers, and repair men. The low weight, short overall length and offset spindle makes this machine particularly suitable for drilling in confined spaces and prevents fatigue in the operator. The ratio of speed to power gives additional scope to the Service Garage proprietor in the operation of decarbonizing brushes and valve guide cleaners on engine reconditioning work.





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WOLF SERVICE · A WORLD SERVICE · Wolf

GH6	6-inch Hand Electric Grinder	NW6C	¾-inch Electric Drill
VSM	7-inch Portable Electric Sander	NWSI	Electric Screwdriver
CM4	Electric Chisel Mortiser	NWB	Portable Electric Blower
EVG3	Electric Valve Seat Grinder	HD2	Electric Hammer Kits

FINE ENGLISH TOOLS Every one of them performance proved. Prices, deliveries and distributor particulars on request.

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Sets the Pace!

WITH SUPERIOR LAMPS · FLARES · REFLECTORS

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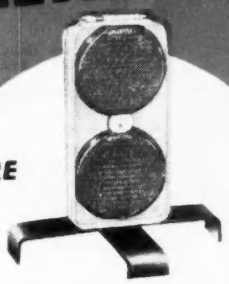


Sturdy, compact and safe without wicks, batteries or dangerous fusees. Brilliant, shatterproof Plexiglas reflectors, visible half a mile.

GROTE MIRROR

Non-glare mirror in one-piece head — micro-adjustable, preset stop — rigid telescope arm withstands vibration and road shock.

Every GROTE item meets the highest standards for rugged service — for practical usefulness — for dependability and safety. Here is design based on today's needs of the modern automotive vehicle — durably constructed of selected materials to give long and ***safe*** service in the hardest use. GROTE lamps and reflectors give ***more light*** because they are equipped with shatterproof Plexiglas—the preferred plastic for its brilliance and clarity—its high photo-metric, non-fading qualities. You'll go farther — ***safer*** — with GROTE.

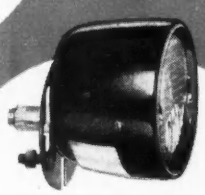
Grote

the Brightest Spot on the Road

GROTE DIRECTIONAL SIGNAL SWITCH

Automatic self-cancelling — trouble-free operation — universal mounting, easily installed to any steering column without removing wheel.

the **GROTE** MANUFACTURING CO., INC.
GROTE SQUARE
BELLEVUE, KY.



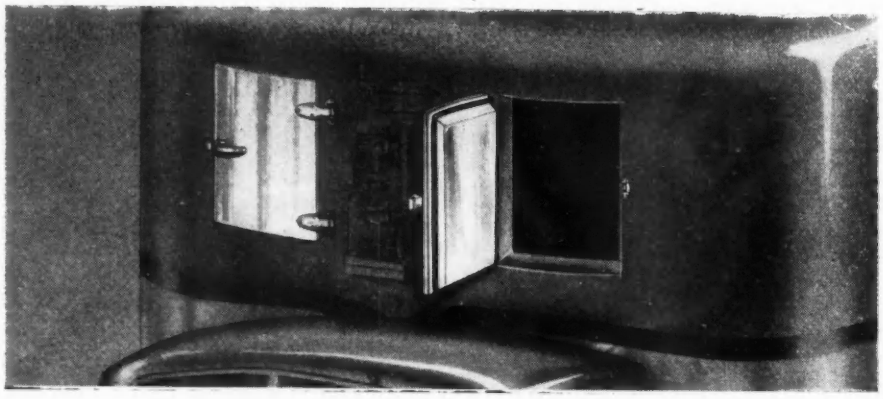
GROTE STOP AND TAIL LAMPS

Stands the most rugged use. More brilliance with this GROTELITE reflex-type, shatter-resisting Plexiglas lens.

GROTE CLEARANCE AND MARKER LAMPS

New design, streamlined for flat or curved mounting, with vibrationless, weatherproof base gasket. Red, amber, green or clear Plexiglas lenses.

Pioneers in **PLASTIC LENSES and REFLECTORS**



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Complete—Ready To Install

for Trucks and Semi-Trailers

D & G Doors can be installed in much less time than is required to make and install a set of hand made doors. They fit neatly and you save time, keeping equipment rolling and saving shop facilities for other important work.

LOWER COST

Not only do you save in time but D & G Ventilator Doors cost much less than it would cost to make them by hand. They come all ready to install with chrome plated strikes, locks, and rubber gasket around edge for tight air seal. Completely insulated with 3" of insulation.

Available in Two Styles — Curved for front, Flat for back.

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Headlamp Switches
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Foglight Switches
Door Switches
Fuse & Junction Blocks
Pilot Lights
Ignition Lock Switches
Accessories

ATA Convention

(CONTINUED FROM PAGE 270)

First place winners in the ATA-sponsored Third Annual Industrial Contest were:

Class 1—0-50 Employees—Osborne Trucking Co., Vincennes, Ind.

Class 2—51-100 Employees—no award.

Class 3—101-200 Employees—Columbia Truck Leasing Co., Inc., Kansas City, Mo.

Class 4—201-500 Employees—Columbia Transportation Service, Cincinnati, Ohio.

Class 5—500 and over—Supplee-Wills-Jones Milk Co., Philadelphia, Pa.

Safety directors of the first place safety contest winners received dual-control electric blankets from the Electric Auto-Lite Co. In addition, all drivers of winning fleets received a safety driving certificate and a gold automatic pencil.

The first place safety directors honored were: W. A. Mische, Consolidated Dairy Products Co., Inc.; D. H. Puckett, City Transfer Co., Ltd. (Honolulu); Robert I. Gayley, Supplee-Wills-Jones Milk Co.; Harry E. Grimes, Harry E. Grimes Transports; W. S. Duckworth, W. S. Duckworth Transport; William A. Schonfeld, Empire Transportation Co.; H. M. Prater, Missouri Pacific Freight Transport Co.; Robert F. Varner, Coastal Tank Lines, Inc.; Collier F. Hendricks, Kansas Van & Storage Co., Inc.; Volney Lay, Lay Trucking Co.; Don Roberts, Carr Consolidated Biscuit Co.; John Watsker, Alton Box Board Co.; Ray M. Johnson, Pacific Highway Transport, Inc.; Harold H. Goff, Mistletoe Express Service, Inc.; Riner Akins, Huber & Huber Motor Express, Inc.; Kenneth N. Beadle, Pacific Intermountain Express Co.

HEADS MICHIGAN TRUCKERS

John Cooper, of Holland Motor Express, Holland, Mich., is the new president of Michigan Trucking Assn. Other officers announced at the annual convention, held Sept. 17 and 18, are Emery Dykstra of Henry Vroom & Son, Detroit, 1st vice-president, and Glenn L. Bancroft of Glenn Bancroft Truck Co., Flint, 2nd vice-president.

Keep 'm Rolling Faster and LONGER

RE-RING WITH **H** PISTON RING Sets
The WEL-EVER Line

Why be satisfied with less than "H" Set performance! Ask your jobber or write The Wel-Ever Piston Ring Co., Toledo, Ohio.

OVERSIZE AND STANDARD REAR WHEEL STUDS
for all Trucks
ORDER FROM YOUR JOBBER

CHAMP-ITEMS

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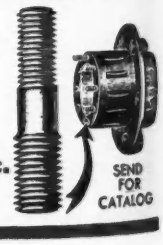

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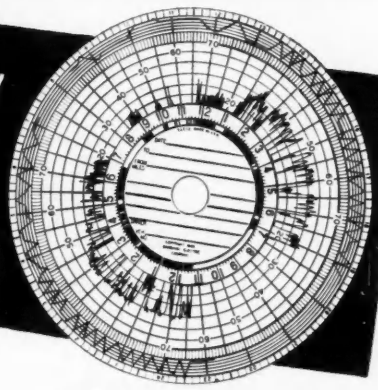
Drivers like TACHOGRAPH THE RECORDING SPEEDOMETER

because... it makes a COMPLETE RECORD of EACH RUN and PROTECTS Them

AUTOMATICALLY RECORDS VITAL FACTS ON THIS CHART



- WHEN ENGINE STARTED
- HOW LONG ENGINE IDLED
- WHEN VEHICLE WAS IN MOTION
- HOW FAST IT TRAVELED
- WHEN VEHICLE STOPPED
- DISTANCE TRAVELED BETWEEN STOPS

More and more drivers are saying—"Yes sir, that Tachograph is my buddy," because it actually makes a complete daily record of their runs—verifying their written reports . . . proving their efficiency . . . and protecting them against false accusations regarding speeding and careless driving.

In addition the Tachograph Chart gives the fleet operator complete information from which cost records can be accurately computed, checking the drivers' efficiency and helping keep maintenance costs down to insure greater payload profits.

Thousands of Tachographs are now in use and have proved their value. Installation is simple—remove the conventional speedometer, mount the Tachograph on the dash and attach to the speedometer cable. Manufactured by Sangamo Electric Company, they are distributed by Wagner Electric Corporation. Mail coupon today for complete information.

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City_____ State_____

We operate_____ (NUMBER) Vehicles

S48-4

. . . More Power in Trucks

(Continued from Page 97)

states (those states probably least able to bear it) an enormous amount of money. The uninformed and impatient motorist might say, "Let the heavy slow-moving trucks pay for it; it's for their benefit." This is hardly fair and certainly untrue. Highways were originally constructed exclusively for commerce which benefits everyone alike and not simply for the private conveyance. Commerce over highways has been basic for thousands of years and must continue to be so as no other means of transportation is known that can supplant it.

Although there is a definite trend among the various states and in the American Association of State Highway Officials for legislated performance of motor vehicles, in view of the wide range and close progression of engine sizes as shown in Table I, it is the considered opinion that a reshuffling of the presently available engines can provide for such anticipated legislation.

Laws Must Be Logical

IF such legislation is to be enacted, by all means it should proceed with great caution. No one ability factor is equitable to all states. Not even to all routes in some given states. Some conditions might be held to justify a higher factor and others a lower factor. The prairies of Kansas could not justify the same requirements as the mountainous terrain of Colorado.

The Society of Automotive Engineers has made an exhaustive study of this subject for the purpose of developing a sound engineering basis for rating the ability of motor trucks and for enforcing whatever might become the legal minimum performance requirements, although no recommendations whatever were made with respect to the severity of any restrictions that might be adopted. The basic recommendation is as follows:

"The potential ability of a motor truck (or combination) shall be rated in pounds of gross weight of truck (or combination) per brake horsepower delivered by the engine to the clutch or its equivalent."

By reference to Table II, will be noted the ratios of gross weight to one horsepower, and the grade-speed-ability resulting. For example, a 400 to 1 ratio of gross weight to horsepower provides ability to climb a 3 per cent grade at 20 mph; a 4.4 per cent grade at 15 mph; a 1.6 per cent grade at 30 mph, etc. (Copy of the complete SAE Report on Ability Rating is available direct from the author upon request.) In order to use this SAE table in conjunction with Table I of piston displacement, multiply the given displacement by 0.33 as the average of all engines examined will develop a maximum of from 0.30 to 0.35 net brake horsepower per cubic inch of displacement. The smaller engines show up on the high side, while the larger engines incline toward the low of these values. For real accuracy, however, net horsepower values for all engines should be taken from the TRUCK manufacturer's certified power curve. A little contemplation and study of comparative results will prove most interesting.

New and more powerful engines will not be needed necessarily to meet legislated performance ability. It would necessitate only a matching of available engines with trucks so as to provide the legislated gross weight to horsepower ratio.

GVW, a Matter of Economics

THE same line of reasoning applies in connection with more liberalization of state size and weight laws.

Much has been written on the subject of motor vehicle sizes and weights and of the wide variance of laws among states. At the present time the State of Utah enjoys the most liberal motor vehicle size and weight laws of all states from an overall standpoint and assuming that laws are "interpreted by the atcual word and intent of the law." Originally the Size and Weight Code recommended by the American Association of State Highway Officials was intended as a floor below which states should not legislate, but above which states should legislate in keeping with the magnitude, intensity and needs of their individual traffic conditions. Utah did just that. She legislated above the minimums set up by the AASHO and as a result has a very liberal set of laws.

For the West Coast operations that involve maximum combination grosses, generally speaking, of 76,000 lb, the engines ranging in piston displacement of from 672 to 1090 cubic inches, seem to be quite adequate from the power standpoint when properly coordinated with gear reductions and tire sizes.

Again the problem in this connection is primarily one of reducing weight rather than of increasing power. Where there are several sizes of engines, all with the same foundation, the largest of the series will be found to be the most efficient mechanically. The substitution of the largest engine in the series will in most cases represent the practical limit of size expansion. If in order to accomplish a normal increase in horsepower requires that the smallest engine of a larger series be utilized, then the increase in weight and dimension and its usual lower mechanical efficiency renders it generally uneconomical.

The economics of a given operation are generally the index to engine size. An example; a company hauling milk into New York in order to reduce road time on certain routes and thus avoid paying overtime, found that the increase in their operating costs with much larger engines, depreciation, fuel cost, maintenance, etc., was considerably more in the aggregate than the former overtime cost regardless of the time saving.

In most cases increasing the size and output of the powerplant also necessitates increasing the capacity

(TURN TO PAGE 276, PLEASE)

"With any body but you, striking oil would mean they're rich!"

5 Reasons Why YOU GET MORE TIRE MILEAGE with Firestone FULL ADVANCED RIMS

★ **Full 5° Tapered Bead Seats on BOTH Sides** — The tire sits *firmly* on the rim; no wobbling or bead rocking. Tires last longer.

★ **New Flange Contours** — Each rim size tailored to fit *each* tire size. *Full* flange support; no rim cutting.

★ **Full Wide Base** — Full 70% rim/tire ratio. More air volume; greater protection against body breaks.

★ **No Ring Run-Off** — The tire seats on the side ring. Tire and ring stay in place in case of flat.

★ **Continuous Base and Side Ring** — An exclusive Firestone feature. Avoids localized bead action, which occurs at split, causing bead failures.

Firestone Full Advanced Rims incorporate ALL the long-mileage improvements specified by the tire industry for better tire mileage. They pay dividends in *lower tire costs* on *every* operating mile. Why pass up these savings? For prices and other information, see your nearest Firestone Tire Dealer or Rim Distributor* today.

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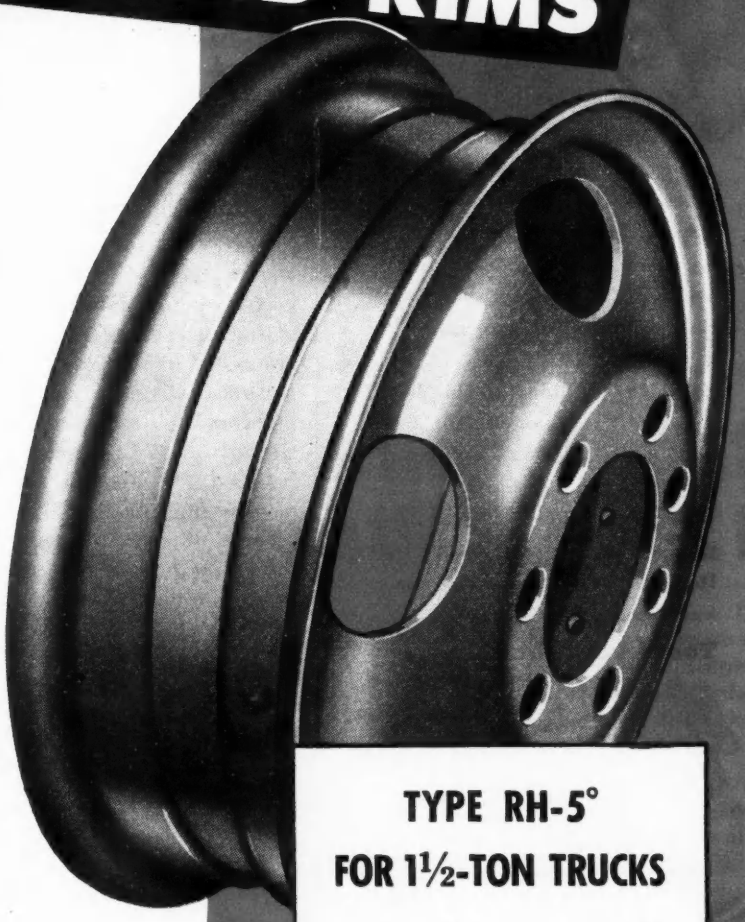

TYPE RH-5°
FOR 1½-TON TRUCKS

Size 20x6.5 two-piece Full Advanced Rim for 8.25 tires. Replaces old style 20x5.00S flat base rim. Other sizes and types available for tires from size 6.50 to 14.00.

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Want a B'ar For Punishment?

Here's a Honey!

These bars are just made for getting into trouble—safely. Their tough steel makes them dependable for the hardest work, and special shapes protect you when you put on the pressure. From the versatile bending bar (with more than 100 positions) to simple pry bars, there's one to fill your needs...so you won't get "stung" when you retire your "makeshifts" and buy these bars from your dealer. He's sure to have the ones you want because

Tools you need— we make!

Adjustable Bending Bar
No. 2135 Has Countless Uses
Rolling Head Bars
Get into Close Places
Grease Bar,
for Lube Work but Fine for Pulling Up
Floors and Other Jobs
Garage or Pry Bars Are Needed
by Every Tool User

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(CONTINUED FROM PAGE 274)

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(TURN TO PAGE 278, PLEASE)

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More Power

(CONTINUED FROM PAGE 276)

like those "protecting" the railroads will limit the gross for one man and will require a second man if that "legal" gross is exceeded.

For the highway operation, it appears to me that Table I lists a rather adequate range of sizes for all needs although we may have a better insight into the economics of operation based on the various loadings of the vehicles on test by the Highway Research Board on the Pennsylvania Turnpike and on U. S. Routes 30 and 11, after the report becomes available.

The off highway operation, of course, may from time to time develop some very special requirements in the matter of powerplants.

END

(Please resume your reading on P. 98)

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